

1971

Virginia Commonwealth University Bulletin

Virginia Commonwealth University

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**VIRGINIA
COMMONWEALTH
UNIVERSITY
BULLETIN**

ACADEMIC DIVISION 1971-1972



VIRGINIA COMMONWEALTH UNIVERSITY
BULLETIN

Academic Division

1971-72

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PREFACE

Virginia Commonwealth University was created by an act of the General Assembly of Virginia during its 1968 session. The University was formed, effective July 1, 1968, by combining Richmond Professional Institute and the Medical College of Virginia. RPI became the nucleus of the Academic Division, and MCV was designated as the Health Sciences Division of the University.

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1971-1972 UNIVERSITY CALENDAR

SEPTEMBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

7

General Faculty meeting 10:30 a.m.
Faculty Advisers Meeting, 2:00 p.m.

7-8

Registration for students taking only evening classes

7-11

Orientation for all new degree-seeking students

8

Advising sessions for all new students

9-10

Registration for returning and new degree-seeking students

10

Registration for special day students

13

Classes begin at 8:00 a.m.

13-17

Add/Drop and late registration for day students

13-18

Add/Drop and late registration for evening students

OCTOBER						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

1

Last day for Fall degree candidates to file application

9

Last day to drop a course with a grade of "W"

10

Mid-semester grades due

24

Thanksgiving holiday begins at 1:00 p.m.

29

Thanksgiving holiday ends at 8:00 a.m.

29-Dec. 6

Academic advising for advance day registration

DECEMBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1

Last day to submit an application for admission or readmission to the Spring semester

1

Last day for Spring degree candidates to file applications

4

Last day to drop a course with grade of "WF" or "WP"

7-10

Advance registration for Spring semester

17

Final date for oral defense of graduate thesis for January completion of degree

18

Christmas vacation begins at 12 noon

JANUARY						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

3

Christmas vacation ends at 8:00 a.m.

11

Classes end for fall semester

12-21

Final examinations for fall semester

22

Filing of final grade reports for day classes

24-26

Registration for students taking only evening classes

26

Orientation for new degree-seeking students

27

Registration for degree-seeking students and for special day students

31

Classes begin at 8:00 a.m.

31-Feb. 4

Add/Drop and late registration for day students

31-Feb. 5

Add/Drop and late registration for evening students

FEBRUARY						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29				

MARCH						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

21
Last day to drop a course with a grade of "W"

22
Mid-semester grades due

25
Spring vacation begins at 12 noon

APRIL						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

3
Spring vacation ends at 8:00 a.m.

17-24
Academic advising for advance registration

25-27
Advance registration for Fall semester

29
Last day to drop a course with grade of "WF" or "WP"

MAY						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

20
Classes end for Spring semester

22-31
Final examinations for Spring semester

26
Final date for oral defense of graduate thesis for June graduation

JUNE						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

1
Final date for filing grade reports

4
Commencement Day

7-8
Registration for summer session

10
Twelve-week Saturday classes begin

12
Classes begin for 6-week and 9-week sessions

JULY						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

15
Last day to submit applications for admission or readmission as degree-seeking or special students for day classes in the Fall semester

15
Last day for summer degree candidates to file application

21
End of 6-week session

21
Registration for 3-week and 5-week sessions

24
Classes begin for 3-week and 5-week sessions

28
Final date for oral defense of graduate thesis for August completion of degree

AUGUST						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

11
End of 3-week and 9-week sessions

25
End of 5-week session

26
End of 12-week Saturday classes

1972-1973 UNIVERSITY CALENDAR

AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
<p>28 General Faculty meeting at 10:30 a.m. Faculty Advisors' meeting at 2:00 p.m.</p> <p>28 to Sept. 1 new degree seeking Orientation for all students</p> <p>29 Advising sessions for all new students</p> <p>31 to Sept. 1 Registration for continuing, re-admitted, and new degree seeking day students</p>	<p>1 Registration for non-degree seeking day students</p> <p>5 Classes begin at 8:00 a.m.</p> <p>5-6 Registration for Evening College</p> <p>5-8 Add/Drop and late registration for day students</p> <p>6 Classes begin for Evening College</p>	<p>14 Last day to drop a course with grade of "W"</p> <p>20 Last day for degree candidates to file application for January commencement</p> <p>25 Mid-semester grades due in Registrar's Office by 9:00 a.m.</p>	<p>6-10 Academic advising for advance day registration</p> <p>13-17 Advance registration for day students for Spring semester</p> <p>17 Last day to submit application for admission or re-admission to Spring semester</p> <p>18 Last day to drop a course with grade of "WF" or "WP"</p> <p>22 Thanksgiving holiday begins at 1:00 p.m. for day and evening classes</p> <p>27 Thanksgiving holiday ends at 8:00 a.m.</p>	<p>1 Final date for oral defense of graduate thesis for January completion of degrees</p> <p>13 Last day of classes for Fall semester</p> <p>14-22 Final examinations for Fall semester</p> <p>23 Christmas vacation begins at 8:00 a.m.</p> <p>27 Instructor grade reports due in Registrar's Office by 9:00 a.m.</p>	<p>9-10 Registration for Evening College</p> <p>10 Orientation for all new degree seeking students</p> <p>11 Christmas vacation ends at 8:00 a.m.</p> <p>11-12 Registration for day degree seeking students</p> <p>12 Registration for day non-degree seeking students</p> <p>15 Classes begin at 8:00 a.m.</p> <p>15-19 Add/Drop and late registration for all day students</p>

FEBRUARY
 S M T W T F S
 1 2 3
 4 5 6 7 8 9 10
 11 12 13 14 15 16 17
 18 19 20 21 22 23 24
 25 26 27 28

9
 Last day for Spring
 degree candidates
 to file application

24
 Last day to drop a
 course with grade
 of "W"

MARCH
 S M T W T F S
 1 2 3
 4 5 6 7 8 9 10
 11 12 13 14 15 16 17
 18 19 20 21 22 23 24
 25 26 27 28 29 30 31

9
 Instructors' grade
 reports due in
 Registrar's Office
 by 9:00 a.m.

10
 Spring vacation
 begins at 12:00 noon

19
 Spring vacation
 ends at 8:00 a.m.

APRIL
 S M T W T F S
 1 2 3 4 5 6 7
 8 9 10 11 12 13 14
 15 16 17 18 19 20 21
 22 23 24 25 26 27 28
 29 30

2-6
 Academic advising
 for advance day
 registration

9-13
 Advance registration
 for day students
 for Fall semester

21
 Last day to drop a
 course with grade
 of "WF" or "Wp"

28
 Final date for oral
 defense of graduate
 thesis for June
 graduation

MAY
 S M T W T F S
 1 2 3 4 5
 6 7 8 9 10 11 12
 13 14 15 16 17 18 19
 20 21 22 23 24 25 26
 27 28 29 30 31

5
 Last day of classes
 for Spring semester

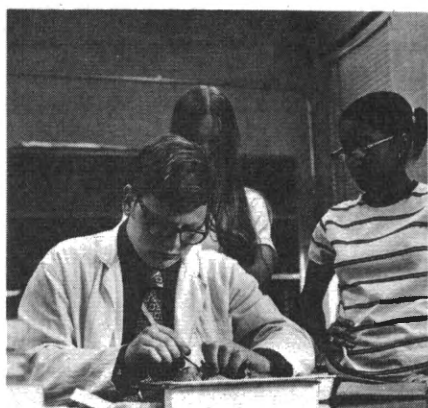
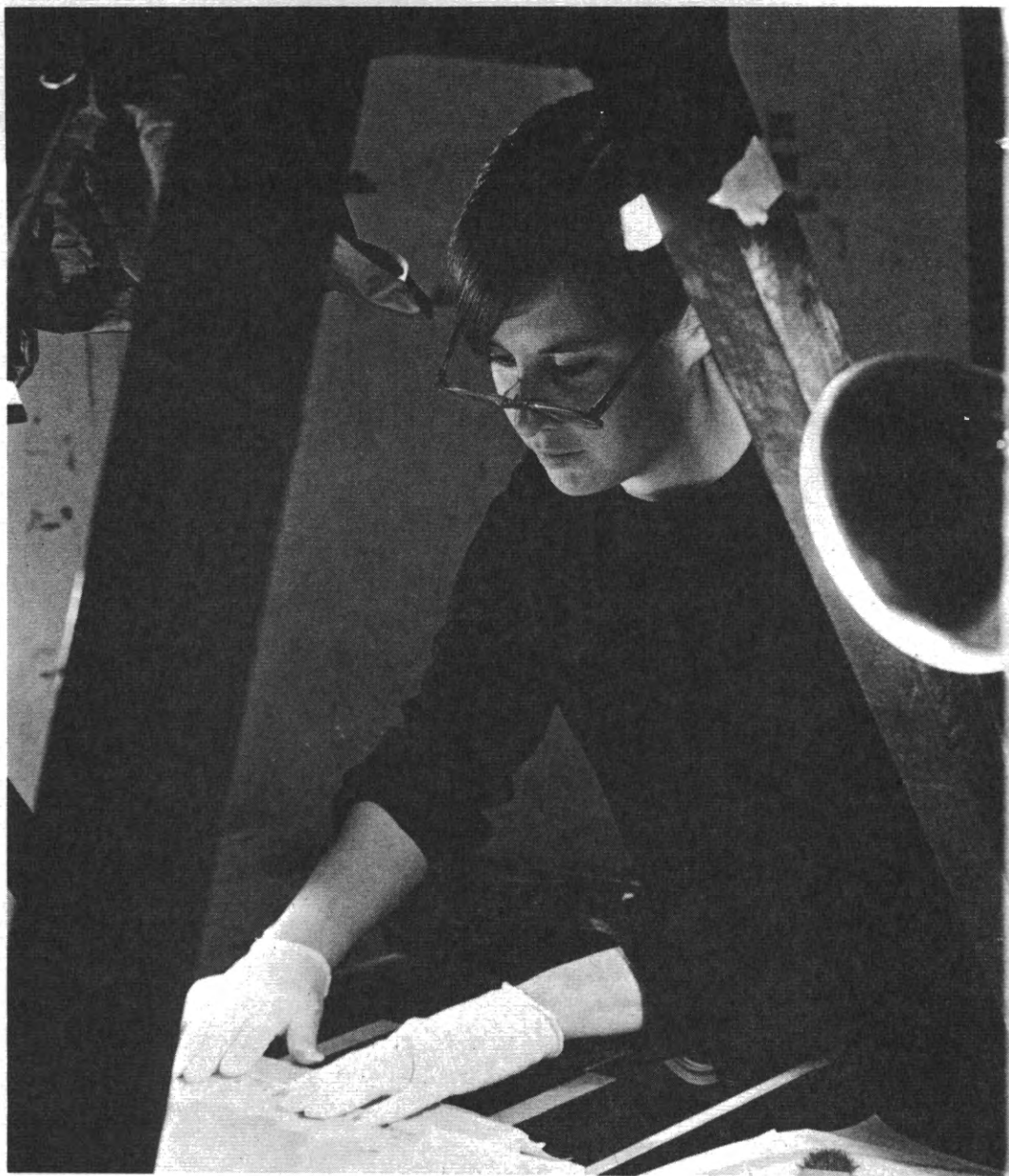
7-15
 Final examinations
 for Spring semester

17
 Instructors' grade
 reports due in
 Registrar's Office
 by 9:00 a.m.

20
 Commencement Day

JUNE
 S M T W T F S
 1 2
 3 4 5 6 7 8 9
 10 11 12 13 14 15 16
 17 18 19 20 21 22 23
 24 25 26 27 28 29 30

JULY
 S M T W T F S
 1 2 3 4 5 6 7
 8 9 10 11 12 13 14
 15 16 17 18 19 20 21
 22 23 24 25 26 27 28
 29 30 31



PART I—GENERAL INFORMATION

PURPOSES AND OBJECTIVES OF THE UNIVERSITY

HISTORY OF THE ACADEMIC DIVISION

HISTORY OF THE MEDICAL COLLEGE OF VIRGINIA

BUILDINGS AND LOCATIONS

ACCREDITATION

SCOPE OF INSTRUCTIONAL PROGRAMS

EVENING COLLEGE

SUMMER SESSION

CENTER FOR CONTINUING EDUCATION

PLACEMENT SERVICE

ALUMNI ASSOCIATION

PART I—GENERAL INFORMATION

PURPOSES AND OBJECTIVES OF THE UNIVERSITY

Purposes:

Virginia Commonwealth University shall endeavor to provide an educational environment nurturing and stimulating teaching, research, and service. Sensitive to the needs of urban life in the Commonwealth, it will strive to promote the pursuit of knowledge and the dissemination of professional skills.

Objectives:

To identify and anticipate urban problems; to advance experimentation and open-ended attitudes in their solution through appropriate research, and to develop the University as a planning and resource center for urban living.

To commit itself to creative and varied programs of teaching, research, and consultation, contributing to the improvement of the quality of life within urban communities.

To promote and develop programs of continuing and graduate education, relevant to contemporary society.

To provide an educational climate which will stimulate in the student a lifelong commitment to learning and service; which will develop competence and motivation to work toward the realization of individual and community potentials; and which will set for the student an example of excellence.

To develop and maintain an environment of educational excellence that will attract and motivate faculty to pursue their work in accordance with the highest educational standards.

To recognize the imaginative power of the arts and humanities in reflecting the problems and aspirations of society and of the human condition; to acknowledge the role of the arts in changing behavior, and to provide opportunities throughout the University and the Commonwealth to maximize their relevance, both individually in the self-realization of the student, and publicly, in exhibition and performance.

To complement existing institutions of higher learning by providing programs of a uniquely urban character, thus enhancing the educational opportunities of the Commonwealth.

HISTORY OF THE ACADEMIC DIVISION

The Academic Division (formerly known as Richmond Professional Institute and now one of two components of Virginia Commonwealth University) began as the Richmond School of Social Work and Public Health in September 1917. The School opened with 31 students and one full-time teacher and director, Dr. Henry Horace Hibbs.

In 1925, the Richmond School of Social Work and Public Health became the Richmond Division of the College of William and Mary. In 1939, the name of the institution was officially changed to Richmond Professional Institute of the College of William and Mary.

In 1953, Richmond Professional Institute, heretofore accredited through its connection with the College of William and Mary, was elected to full membership and accredited in its own name by the Southern Association of Colleges and Schools.

By act of the General Assembly in 1962, Richmond Professional Institute was separated from the College of William and Mary and made an independent state-supported institution, effective July 1, 1962.

The 1968 Virginia General Assembly approved a recommendation that Richmond Professional Institute be joined with the Medical College of Virginia, another state-supported institution of higher education, to form Virginia Commonwealth University. The new University came into existence on July 1, 1968.

Throughout the years of development, the school has been ably led by its chief administrators. Doctor Hibbs has been succeeded by Dr. George J. Oliver (1959-1967), Dr. Roland H. Nelson, Jr., (1967-1968), and Dr. Warren W. Brandt, elected by the Board of Visitors to serve as the new University's first president.

HISTORY OF THE MEDICAL COLLEGE OF VIRGINIA

The Medical College of Virginia, now the Health Sciences Division of Virginia Commonwealth University, was opened in 1838 as the medical

department of Hampden-Sydney College. The archives reveal no remarkable events until 1853 when a controversy led to a rupture, and the medical department of Hampden-Sydney College became the Medical College of Virginia, an independent institution chartered February 28, 1854. When the Commonwealth of Virginia appropriated \$30,000 for the Colleges' first hospital in 1860, MCV became a State-supported institution. In 1893, a second medical college, the University College of Medicine, opened its doors just two blocks from the Medical College of Virginia. These two were consolidated in 1913.

The hospital facilities consist of five hospitals with a total bed complement of approximately 1,100 and an outpatient department.

The present teaching program consists of the Schools of Medicine, Dentistry, Pharmacy, Nursing, Graduate Studies, and Allied Health. The School of Allied Health includes Programs in Hospital Administration, Medical Technology, Nurse Anesthesiology, Occupational Therapy, Patient Counseling, Physical Therapy, and Radiologic Technology. A Bachelor of Science degree Program in Dental Hygiene is offered in the School of Dentistry. Programs are also offered in advanced immunohematology and cytotechnology, and there is a dietetic internship. Plans call for the addition and expansion of programs in the near future.

The Board of Visitors has adopted 1838 as the founding year of Virginia Commonwealth University as it is customary to date an educational institution from the date of the establishment of its earliest component.

BUILDINGS AND LOCATION

The Academic Division of the University is located in a residential section of downtown Richmond with buildings on Grace, Shafer, Franklin, and Harrison Streets and Park and Floyd Avenues, beginning at Monroe Park (700-block) and extending through the 900-block to Harrison Street. Present plans call for extending the campus southward toward the James River.

The first building occupied by the RPI segment of the institution at its present site was Founders' Hall at 827 West Franklin Street, used from 1925 to 1930 for classrooms and now used as a women's dormitory. In 1930, a large mansion located at 901 West Franklin Street was purchased for use as a classroom and administration building, a purpose which it is still serving. Between 1925 and 1959, 36 pieces of real estate were acquired, including several substantial buildings which have been adapted to educational use. Since 1959, over 25 additional pieces of real estate have been purchased; many of these properties have been razed to provide sites for new buildings for the University.

In 1951, the gymnasium building at 813-819 West Franklin Street was constructed, and an addition to this building was completed in 1958. A modern classroom building on Shafer Street, known as the Hibbs Building, was completed in 1958-59. The south wing and extension of this building was completed in 1967. A modern science building, located at 810 Park Avenue, was completed in 1962, and a west wing was added to the building in 1965.

The newest dormitory on the campus is the 19-story building named in honor of Mr. Webster S. Rhoads, Jr., a former member of the R.P.I. Board of Visitors. This modern structure houses 700 students. An apartment building at 801 West Franklin was acquired in 1964 and remodeled to house 500 students. A converted residence building at 916 West Franklin Street serves as a student center and houses various student lounges and activities offices, including student government offices. A large office and apartment building (Franklin Terrace) at 812-814 West Franklin Street was acquired and remodeled in 1967 to provide for a number of classrooms and offices.

In mid 1970, the first phase of the James Branch Cabell Library and a new gymnasium were completed. Presently under construction are the Pollak Art Building, a building for the School of Business, an education building, and a science building.

As a modern urban institution of higher education, Virginia Commonwealth University seeks to identify with the city of which it is a part. Its campus is the community itself, although a cluster of some 12 major educational buildings comprise the heart of the Academic Center. These buildings blend the old with the new and the classic with the modern to remind one of the many facets of the larger community surrounding the institution. The University is dedicated to preserving the best of the past and to blending it with the vibrant growth of the present and the promise of the future. The University will seek to preserve this blend in its physical setting.

ACCREDITATION

Virginia Commonwealth University is a member of and accredited by the Southern Association of Colleges and Schools, which is the general accrediting agency for colleges in this region. Individual schools or departments in the Academic Division hold membership in or are accredited by various other associations including the following:

- Council on Social Work Education
- American Occupational Therapy Association
- National Association of Schools of Music
- American Collegiate Retailing Association
- Virginia State Department of Education
- National Association of Business Teacher Training Institutions
- Council on Medical Education and Hospitals of the American Medical Association
- American Association of Colleges of Teacher Education
- National Association of Schools of Art

SCOPE OF INSTRUCTIONAL PROGRAMS

The instructional programs of Virginia Commonwealth University are offered on three levels as follows: (See page 55 for listing of degree programs.)

Associate degree programs—leading to the Associate in Arts or Associate in Science degrees in several two-year terminal programs in technical fields or the first two years of general education in the arts and sciences.

Baccalaureate degree programs—leading to the B.S., B.A., B.M., or B.M.E., B.F.A. degree in a wide variety of general and professional fields of study.

Graduate degree programs—leading to Masters' degrees in a number of general and professional fields of study. Doctoral programs are currently available in the Health Sciences Division. A doctoral program in Psychology is offered in the Academic Division.

EVENING COLLEGE

A wide variety of courses is offered in the evening for the benefit of those students who seek to continue their education on a part-time basis and for those full-time students desiring to take part of their course work in the evening. The evening and day programs form a single educational unit with many of the regular full-time faculty members teaching evening courses. Some classes are taught in the evening because the qualified instructors required for these specialized courses are available only in the evening hours. Evening courses carry regular college credit and have the same status as regular day courses. Such courses are usually offered on campus but may be scheduled at more convenient locations within the Richmond metropolitan area.

Although there is no limit placed on the number of credits that may be earned in the Evening College, generally, no more than 21 credits may be taken toward a VCU degree as a non-matriculated student. For these reasons, evening students who wish to earn a degree are allowed to apply for a degree seeking status through the director of admissions before they complete 21 credits. A separate bulletin of Evening College offerings is available upon request. Write to Director of the Evening College, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220.

SUMMER SESSION

A variety of course offerings is available in the summer. There is a six-week session, followed by a three-week and five-week session, a nine-week summer evening session, and for those desiring to earn 12 credits during a summer, several courses are offered on Saturday morning during a 12-week period from mid-June to the end of August. For complete information and bulletins, inquiries should be directed to the summer session office, telephone number (703) 770-6731.

CENTER FOR CONTINUING EDUCATION

The Center for Continuing Education is a coordinating agent for sponsoring or assisting the various schools and departments in sponsoring non-credit adult education programs, such as workshops, institutes, seminars, in-service training programs, and television series. Programs are announced in special bulletins from time to time. For more information, inquiries should be addressed to the dean of continuing education.

PLACEMENT SERVICE

As a service to undergraduate, graduate students, and alumni, VCU operates a placement bureau. This office schedules regular campus interview visitations with major manufacturers, business establishments, and school districts in Virginia and neighboring states.

ALUMNI OF THE UNIVERSITY

Alumni of Virginia Commonwealth University are associated to help the University achieve its many goals. Communications between alumni and the University serve to acquaint the alumnus with the University today and to keep him informed of current events. An appeal for financial support for the University and its programs is made each year by the annual fund.

Alumni activities are coordinated for the University by the Alumni Activities Section of the Office of Development. Inquiries should be directed to the Director of Alumni Activities, 910 West Franklin Street, Richmond, Virginia 23220, telephone (703) 770-7124.



PART II—ADMISSION REQUIREMENTS

INFORMATION FOR PROSPECTIVE STUDENTS

GENERAL REQUIREMENTS FOR ADMISSION

SPECIFIC REQUIREMENTS FOR ADMISSION OF FRESHMEN

SUBJECTS REQUIRED FOR ADMISSION AS FRESHMAN

ADMISSION OF TRANSFER STUDENTS

ADVANCED PLACEMENT

CREDIT BY EXAMINATION

READMISSION

ENROLLMENT OF SPECIAL STUDENTS

ENROLLMENT FOR AUDIT CREDIT

SUMMER SCHOOL ADMISSION

ADMISSION TO GRADUATE SCHOOL

PART II—ADMISSION REQUIREMENTS

INFORMATION FOR PROSPECTIVE STUDENTS

Virginia Commonwealth University is a coeducational state-supported institution located in Richmond, the capital of Virginia. As an urban institution of higher learning, the University provides a wide variety of instructional programs in general studies and in pre-professional and professional fields at a reasonable cost to the student.

The Board of Visitors, the administration, and the faculty of Virginia Commonwealth University are committed to a policy of equal opportunity in education without regard to race, creed, color, sex, or national origin.

Today, after 54 years of service, the Academic Division enrolls over 12,000 students per year with approximately 7,000 of these being full-time degree seeking students and over 5,000 being part-time students. Over 1,100 students are pursuing graduate studies on a full-time or part-time basis. The proportion of men and women is about equal.

There are over 1,700 dormitory spaces with 1,400 of these being reserved for women students under 21 years of age. Approximately 1,500 out-of-town students live in off-campus rooms and apartments. The majority of the students commute to the University from the surrounding metropolitan area, and a large proportion of the students earn their college expenses by working at part-time jobs.

GENERAL REQUIREMENTS FOR ADMISSION

Each applicant must be at least 16 years of age, a graduate of an accredited secondary school, and must present a satisfactory health certificate and evidence of good character.

Students are advised to make application for admission early in their senior year of high school, especially if they are required to live in university housing. Although there is no application deadline for the fall semester, a large number of applications may cause early closing of one or more schools. Applications for the spring semester must be received by December 1. Application forms may be secured from high school counselors or from the Director of Admissions, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220. A \$10 non-refundable fee must accompany each application for admission.

New freshmen students generally are not admitted to the following divisions in mid-year: art, engineering, and engineering technology (electrical-electronics).

All candidates for admission and transfer applicants who have attempted fewer than 30 semester hours must take the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board. Candidates should take the April test in the junior year or the December test in the senior year, but later test scores are acceptable. The VCU code number for the CEEB application is 5570. For information concerning dates and places of testing, consult high school guidance officers or write to Educational Testing Service, 20 Nassau Street, Princeton, New Jersey 08540.

There are no specific dates on which students are notified of acceptance. The admissions process is a continuous year round activity. Generally, action will not be taken on any application until all pertinent records (transcripts and test scores) are available and processed. Applications require from one to four weeks for processing after all pertinent records have been received.

When students are notified of acceptance by the University, they will also be notified of the conditions under which the University will hold a place for them in the term in which they seek to be enrolled.

All approved applicants will receive a medical form which must be properly completed and returned prior to August 1 for the fall semester and January 1 for the spring semester. Applicants who are accepted for admission should notify the University as soon as possible whether they wish to accept or reject this offer. The University reserves the right to cancel any offer of admission not acknowledged prior to the closing of enrollment or any application not completed by the applicant by August 1 (for the fall term).

The University reserves the right to release copies of admission decisions and grade reports of enrolled students for the purpose of institutional research.

Veterans who wish to receive credit for physical education requirements must present copies of their Certificate of Separation (Form DD-214).

Prospective students and their parents are welcome to visit the campus and discuss plans with admissions counselors. Office hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday. In order to insure that a counselor and/or a school representative is available, students are advised to write or call the office at (703) 770-7221 for an appointment.

SPECIFIC REQUIREMENTS FOR ADMISSION OF FRESHMEN

Consistent with the wide choice of programs available to the prospective student, the Academic Division of VCU maintains a variable policy on admissions. This means that admissions requirements may vary somewhat depending upon the particular program selected by the student.

The basic requirements for admission as a freshman are similar for each undergraduate program except that The School of the Arts requires additional evidence of aptitude. Art students are required to furnish a portfolio of their achievements. Music and drama students may be required to audition.

As the number of applicants who meet the essential requirements for admission exceeds the number that can be admitted, the University selects those students who present: (a) the strongest qualifications in scholastic achievement, character, personality, and performance in extracurricular activities, and (b) evidence of aptitude for achievement in the professional or specific field of study for which the applicant seeks training.

Specifically, students are selected on the basis of: (a) their high school records (courses of study, grade average, and rank in class); (b) academic aptitude as reflected in tests of the College Entrance Examination Board; and (c) evidence of interest and motivation as supplied through recommendations of qualified observers and personal interviews.

SUBJECTS REQUIRED FOR ADMISSION AS FRESHMAN

Except for arts, arts and sciences, business, engineering, and occupational therapy, applicants for admission are not required to have completed a specified list of subjects in high school, the major factor in admission being the possession of genuine interest in and a real aptitude for the specialized subjects to be taken at Virginia Commonwealth University. In the following programs, applicants should have completed specific high school units or other requirements:

Arts

Applicants to The School of the Arts will be given special assignments intended to measure, in part, the student's ability and aptitude for the field.

Portfolio requirements will be forwarded upon application. These assignments are to be done at home and will form part of the basis upon which an evaluation will be made.

Those students applying to drama are admitted only upon satisfactory demonstration of ability and genuine interest.

Applicants for the Department of Music must show evidence of musical training, as well as the attainment of a technical level in one or more fields of music. All entering freshmen must take the theory placement examination.

Arts and Sciences

Students applying to the School of Arts and Sciences must have four units in English, two units in algebra and one-half unit in plane geometry, two units in a foreign language, two units in a laboratory science, and two units in history or political science. Students who are otherwise acceptable, but who are deficient in units of mathematics or foreign languages, may be admitted with the understanding that they will be required to make up these deficiencies without college credit.

Business

Students applying to the School of Business must have a minimum of one year of high school algebra. Two years of high school algebra are strongly recommended.

Community Services

Students applying to the School of Community Services must present four units of English, one unit of algebra, one-half unit of a physical science, and one unit of history or political science. Students, who are otherwise acceptable but who are deficient in these subjects, may be admitted with the understanding that they will be required to make up these deficiencies without college credit or they must be able to demonstrate competence in the areas of deficiency through examination.

Education

Applicants to a program in secondary education (biology, chemistry, English, history, French, mathematics, physics, and science) will be admitted through the School of Arts and Sciences. Such applicants must meet the admission requirements of the School of Arts and Sciences and will complete lower level requirements before entering the School of Education at the beginning of their junior year. Other education majors (business education, distributive education, elementary education, health and physical education, and special education) will enter directly into the School of Education.

Engineering

Students must have four units in English, four in mathematics, one in laboratory science, one in history, and six other units. The four units in mathematics must include two units in algebra, one in geometry, and one-half unit in trigonometry. The remaining one-half unit may be in advanced algebra, solid geometry, or higher mathematics. Applicants who do not have the required units at the time of graduation from high school should attend summer school in order to qualify for full admission.

Applicants to engineering must take Achievement Tests in English and Mathematics given by the College Entrance Examination Board in addition to the Scholastic Aptitude Test.

Occupational Therapy

Students seeking admission to occupational therapy should have four units in English, one and a half units (preferably two units) in algebra and geometry, one unit in history or social studies, one unit in science, and other units to total 16. A foreign language is desirable.

ADMISSION OF TRANSFER STUDENTS

Transfer students compose a large portion of the VCU student body. Applications for the fall semester are accepted as long as space is available. December 1 is the deadline for application for admission for the spring semester, although applications from transfer students who are enrolled for the fall term in another institution are not accepted.

Students with credit for one, two, or three years' previous work in accredited colleges and universities are considered for admission provided they present evidence of good standing at the institution last attended and otherwise meet specific admission requirements. A "C" average (2.0 on a four-point scale) on all credits attempted is required for consideration for admission.

A minimum of 30 credits toward the final requirements must be completed in residence at Virginia Commonwealth University.

Students who are not in good standing at their former institutions must wait one year from effective date of ineligibility before they can be considered for admission to Virginia Commonwealth University. This rule applies to attendance in either day or evening classes and for degree seeking and non-degree seeking applicants.

Acceptable course credits from other institutions will be recorded on the student's permanent record at Virginia Commonwealth University, together with the grades earned if they are applicable toward a degree program. Regardless of the quality of work done at other institutions, however, transfer students must maintain a "C" average in the credits earned at VCU toward a degree. Credits earned at other institutions carrying a grade of "D" generally will not be accepted for transfer. Generally, courses required in community college occupational and technical curriculums and credits earned at non-accredited institutions are not transferable. In addition, transfer work from two-year institutions may not be applied to upper division requirements at VCU regardless of equivalent VCU course numbers.

An evaluation of transferable credits is made by the appropriate department after the final transcript has been received. Not over 15 professional credits in education may be transferred to VCU if taken seven or more years ago.

ADVANCED PLACEMENT

Qualified students who have taken college-level work in secondary schools may receive academic credit and/or advanced placement. Examinations which determine advanced placement are the Advanced Placement Tests of the College Entrance Examination Board. Final determination of credit will be made after test results have been evaluated by the University.

CREDIT BY EXAMINATION

The University will award college credit to students who score satisfactorily on tests administered through the College Level Examination Program

(CLEP). A maximum of 30 semester hours for the subject examinations, and a maximum of 30 semester hours for the general examination, or a combined total of 60 semester hours for both examinations, may be granted in college equivalency.

Candidates who desire information about any part of these examinations or who seek assistance in developing advanced standing may write the Director of Admissions, Virginia Commonwealth University, 920 West Franklin Street, Richmond, Virginia 23220.

READMISSION

A degree-seeking student in good standing who fails to register for any given semester is required to submit an application for readmission to the Office of Admissions in order to become eligible to register in any subsequent term. Such forms are provided by the Office of Admissions. If the student will have been out of school for more than one calendar year, his application must be accompanied by a \$10 fee.

Application for readmission must be received by August 15 for the fall term and December 1 for the spring term.

Any student (degree or non-degree seeking) applying for readmission who is academically deficient is not permitted to enroll in either day or evening classes for a period of at least one semester subsequent to the first suspension or for one academic year subsequent to a second or later suspension. Eligibility for readmission must be established in accordance with procedures set forth under "Continuance in College" in the Bulletin.

The Office of Admissions will notify applicants whether or not the request for readmission has been approved.

ENROLLMENT OF SPECIAL STUDENTS

Students who seek to continue their education at VCU without requesting admission to a degree program may enroll as special part-time (maximum of 9 credits) students in either day or evening classes for credit provided they meet the following criteria: (1) the student must be a graduate of an accredited secondary school or be a graduate of an equivalent program; (2) if he has attended another college, he must be in good standing (eligible to return to that college); (3) if he has been suspended from VCU for academic reasons, he must re-establish eligibility for future enrollment in either day or evening classes in accordance with procedures set forth under "Continuance in College" in Section V of this **Bulletin**; (4) if he has been suspended from another college for academic reasons, he must wait for at least one academic year before enrolling; (5) if he has been suspended from VCU or another college for disciplinary reasons, he must secure the permission of the Office of Student Life at VCU before he is eligible to register for classes as a special student. Applicants rejected for regular admission may not attend as special day students.

All students enrolling as non-degree students will be classified as special students until they are admitted to a degree program. Credits earned as

special students will be recorded, and while there is no limit placed upon the number of credits that can be taken in this classification, generally no more than 18 credits earned as a special student may be counted toward a degree at VCU. Thus, students planning to earn a degree should seek to be admitted at the earliest possible time even if they expect to continue working on their degree on a part-time basis.

It is highly desirable for special students to apply early and have transcripts and other essential credentials sent in prior to registration, either to the Office of Admissions or to the Evening College Office (for evening classes). Special students attending as day students must obtain and file application for admission as special students before admission is closed (for the fall term) or December 1 (for the spring term).

Those special students who are unable to apply early or prefer not to do so may obtain and file the required application for Evening College admission only as late as the last evening of registration. The special student will be allowed four weeks from the date classes start in which to furnish the Evening College Office with the required credentials. If the credentials have not been received by the end of the four-week period, the student will be classified as an auditor and may not receive credit for the course.

Special day students who continue from one semester to another are not required to file additional applications. Special day students who fail to register for any given semester must submit an application to the Office of Admissions.

ENROLLMENT FOR AUDIT CREDIT

Students who wish only to audit courses must follow the same procedures outlined for special students.

SUMMER SCHOOL ADMISSION

Matriculated students in good standing at VCU may continue their studies through the summer sessions without special records or permission. Matriculated students at VCU who have been dropped for academic deficiencies may seek to make up these deficiencies in subsequent summer sessions in accordance with procedures set forth in "Continuance in College" in the **Bulletin**.

Non-matriculated students seeking to enroll in the summer session must submit "Certificates of Good Standing" from the college last attended or a Certificate of High School Graduation or its equivalent. Such certificates must be submitted prior to the completion of the registration period to establish eligibility for enrollment in the summer session.

ADMISSION TO GRADUATE SCHOOL

A **Graduate Bulletin** describing requirements and procedures for admission to graduate programs will be sent upon request. Address inquiries to the director of graduate studies for the school that sponsors the program desired.

PART III—EXPENSES AND FINANCIAL AID

A. FEES AND EXPENSES

- Application Fee and Deposits**
- Tuition Charges Per Student**
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PART III—EXPENSES AND FINANCIAL AID

A. FEES AND EXPENSES

It is expected that students shall pay all applicable fees enumerated in this section prior to registration for each semester. Students are reminded, however, that the University reserves the right to revise or alter all fees, regulations pertaining to student fees, and fee collection procedures whenever such revisions or alterations are deemed necessary.

APPLICATION FEE AND DEPOSITS

Application Fee: Each student applying for admission or readmission to the University shall pay a \$10 non-refundable fee. This fee shall accompany the application form sent to the Admissions Office.

Dormitory Deposit: A \$50 dormitory deposit is also required upon receipt of official notification of acceptance. This deposit is also non-refundable on cancellation. The dormitory deposit is not applicable to the room and board charges, but remains on deposit to be applied toward possible room damage. As such, the deposit shall be returned, minus any damage charges, when the student terminates his connection with the University.

TUITION CHARGES PER STUDENT

Undergraduate Full-time:

Virginia Resident
\$470 (per academic year)

Non-Resident of Virginia
\$940 (per academic year)

The tuition shown is for the academic year 1971-72. Educational costs are subject to similar price adjustments found in the costs of other commodities; therefore, fees may be changed for the academic year 1972-73.

(Note: The above tuition charges apply to all full-time students. Full-time students are those students who are enrolled for 12 or more credits in a given semester. An academic year includes two semesters.)

Definition of Virginia Resident: Section 23-7 of the Code of Virginia states: "No person shall be entitled to the admission privileges, or the reduced tuition charges, or any other privileges accorded by law only to residents or citizens of Virginia, in the State institutions of higher learning unless such person has been * domiciled in, and is and has been an actual bona fide * resident of Virginia for a period of at least one year prior to * the commencement of the term, semester or quarter for which any such privilege or reduced tuition charge is sought, provided that the governing board of such institutions may require longer periods of residence and may set up additional requirements for admitting students."

Undergraduate Part-time: Part-time undergraduate Virginia resident students shall be charged \$20 per semester credit in day and evening classes.

Part-time undergraduate non-residents shall be charged \$37 per semester credit in day and evening classes.

Graduate Full-time and Part-time: All fees pertaining to graduate students are listed in the graduate bulletins.

SPECIAL CHARGES

Because of specialized programs, various schools and departments charge each student additional fees to cover special materials, equipment breakage, etc.

The following minimum semester fees are charged for those students registering in the specified courses:

School of the Arts:

\$25 per semester charge to arts majors.

All majors enrolled in the School of the Arts are charged a comprehensive fee of \$25 each semester. Non-art majors enrolled in any of the numerous courses which require an additional outlay for materials will be billed for those individual fees by the business office.

Music—Private lessons. Refer to page 75.

For students enrolled in the Division of Design and the Fine Arts Division there is a \$5 sustaining supplement charged for each studio course.

Numerous courses require an additional outlay for materials, and such fees are collected within the departments.

Department of Chemistry: Each student is charged for breakage incurred. Regular safety glasses are required.

School of Education: 407—\$5 fee.

Physical Education—117W, 117M, 217W, 217M, 220W—\$7 per course.

Department of Retailing: 116—\$7.50 fee.**Non-recurring Fees (undergraduate)**

Application Fee	\$10
Graduation Fee (includes: diploma and use of cap and gown during the senior year.)	
Bachelor's degree	14
Associated degree	12
Change in Registration (after add/drop)	3 per course
Late Registration (full-time students)	10
Room Change	5
Transcript Fee	2 each (after two free copies)
Rental of Parking Space (when available)	7 per month
Excess Credits (students enrolled for more than 19 credits per semester)	20 per semester credit

Student Activities Fee: All full-time undergraduate students shall be required to pay a comprehensive fee covering student activities scheduled throughout the school year (concerts, plays, athletic events, etc.). The comprehensive fee shall be \$12 per semester.

All undergraduate part-time day students (those carrying seven through 11 credits) shall be required to pay a \$5 per semester comprehensive student activity fee.

PAYMENT OF TUITION AND SPECIAL FEES

Tuition is payable by the semester as follows:

	Virginia Resident	Non-Resident of Virginia
First Semester—by		
July 15	\$235	\$470
Second Semester—by		
January 15	235	470
TOTAL TUITION PER ACADEMIC YEAR	\$470	\$940

Special charges and fees are due and payable at the time of payment for each semester's tuition charges.

FEES FOR DORMITORY RESIDENTS

The charges for matriculation, tuition, and other instructional services are the same for dormitory residents as for commuting students. Other charges for dormitory resident for the academic year:

Room rent	
Rhoads Hall	\$520
Johnson Hall	490
Other dormitories	470
Room Deposit and Damage Fee	50
Laundry	30
Infirmary	40
Board	
Full-board plan (21 meals per week)	495
A la carte Cafeteria (approximately)	575
(The meal plans are described more fully in the section below.)	

Room Rent: Each student for whom dormitory space has been reserved will receive a notice from the Housing Office specifying a date by which a deposit of \$50 must be received by the University. Room rent is payable at the time other tuition and fees are due. Rooms in dormitories are rented for the entire academic year of nine months. Exceptions may be made for students who complete their course of study at the end of the first semester or, for other reasons satisfactory to the University, have arranged in advance at the time of enrollment to rent a room for one semester only. Women students who marry during the school year will be required to move out of the dormitory. Certain exceptions may be granted by the Dean of Women. (No refund or rebate of room rent is made for any cause after the dates for closing room reservations as stated above; subletting is not permitted.)

Board: All freshman and sophomore students who live in University dormitories are required to take their meals in the University dining facilities.

Full-Board Plan: Dormitory students. All freshman and sophomore students who live in the University dormitories are required to take their meals in the University dining facilities. The University administration believes the full-board meal system will be more satisfactory and more economical in most cases. This plan provides 21 meals per week for students; seconds are permitted. The cost is \$495 for the school year.

Cafeteria: Students living off-campus may subscribe to full-board plan to the extent that space is available. Students not on the full-board plan may use the cafeteria on a pay as you go basis.

Summary of semester charges for dormitory resident students using the full-board plan (in addition to application fee and room deposit):

Tuition	\$235
Room (minimum)	235
Meals	247.50
Laundry	15
Infirmary	20
Student activity fee	12
	<hr/>
	\$764.50

The \$764.50 is due July 15 for the first semester and January 15 for the second semester.

Summary of semester charges for dormitory resident students not on the full-board plan (in addition to application fee and room deposit):

Tuition	\$235
Room (minimum)	235
Laundry	15
Infirmary	20
Student activity fee	12
	<hr/>
	\$517

The \$517 is due July 15 for the first semester and January 15 for the second semester.

INCIDENTAL EXPENSES

It should be stressed that a student will incur at college not only those expenses for which he is billed by the school, but will, in addition, pay for clothing, books, supplies, travel, and many out-of-pocket expenses.

A student should therefore plan to make allowances for such expenses in figuring the cost of each year at the University.

INSURANCE

The University is not responsible for accidents occurring to students in connection with class, laboratory, shop, field work, athletics, student activities, travel, or other activities. However, the University offers to its students approved insurance providing substantial benefits at group rates. The insurance extends for a 12 month period beginning September 1st, or from the beginning of second semester to the next September 1st, and includes coverage for accidents, and hospital, medical, surgical and other benefits for illnesses. Married students may wish to enroll their spouse, children. The insurance is written through North America Assurance Society. The University recommends but does not require that all students enroll in the approved Student Group Insurance. All students are required at or before registration to complete a card stating that they do or do not wish to participate in the Group Insurance Plans. For further information, contact the Bursar, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220.

Insurance to cover students participating in certain intercollegiate sports is arranged through the Athletic Department.

A small comprehensive fire, water, and theft insurance policy on student property is recommended as the University is not responsible for losses due to fire or theft or water damage.

SECURITY DEPOSIT AND DAMAGE FEE

A Security Deposit and Damage Fee of \$50 will be required of each student completing an agreement for residence hall accommodations. This fee is

not applicable to the room and board charges but remains on deposit to be applied toward possible room damage. As such, the fee shall be returned minus any damage charges, according to the following conditions:

1. If application for room is canceled in the Office of the Director of Housing within the time limits specified in residence hall contract.
2. When a student at the termination of his contract severs his connection with the University or the residence hall provided he is not required by University regulation to reside in University residence halls.

A resident forfeits his Security Deposit and Damage Fee if he withdraws for any reason from the University residence halls before the termination of his contract.

REFUNDS AND REBATES

A full-time or part-time day student who withdraws in good standing shall be entitled to a refund of a portion of his tuition, room, and board fees for the semester in which he is currently enrolled. All other fees are non-refundable.

Request for refund: A request for a refund shall be made in writing to the Dean of Student Services before said request can be considered. The following policy governs the refund of room, board, and tuition fees:

1. A student who fails to register or is denied permission to register will be entitled to a full refund of tuition, room, and board if paid in advance.
2. Students entering involuntary military service of the United States will be granted a refund on a prorated basis.
3. A student will be entitled to a refund of 80 percent of his room, board, and tuition fees upon withdrawal before the end of the first week of the term (seven consecutive calendar days from the first day of classes) and a decrease of 20 percent each week thereafter up to and including the fourth calendar week. NO AMOUNT WILL BE REFUNDED FOR WITHDRAWAL AFTER THE FOURTH CONSECUTIVE CALENDAR WEEK OF THE TERM.

The actual date of withdrawal will be certified by the Office of the Dean of Student Life; and refund, when appropriate, will be computed based on that certified date.

Contracts for room and board (except in cases involving contracts initiated during the Spring and Summer terms) are for a two-semester period. If a resident voluntarily withdraws from the University residence halls without clearance from the Office of the Dean of Student Services but remains at the University, he will be responsible for full room and board fees. Subletting is not permitted.

Exceptions to the above policy can be made only by the Office of the Dean of Student Services.

DELINQUENT ACCOUNTS

The University will not issue a degree, transcript of grades, or grade reports to any student who has not paid all charges in full. Students whose accounts are not paid in full may not be admitted to final examinations at the end of semesters.

B. FINANCIAL ASSISTANCE TO STUDENTS

The University maintains a Financial Aid Office which offers financial assistance, when possible, to deserving and qualified students in an effort to help these students overcome financial obstacles relative to the attainment of a degree.

INSTALLMENT PAYMENT OF FEES

The University does not offer a financial aid plan for direct payment of semester charges on an installment basis. For those parents who wish to pay college costs in installments, the University recommends application to the Tuition Plan, Inc. or your local bank. The plan makes money available only for those expenses for which a student is billed by the University.

A descriptive brochure on the plan may be secured from the Tuition Plan, Inc., 575 Madison Avenue, New York, New York 10022.

APPLICATION FOR AID

The Financial Aid Office provides an application that pertains to all financial assistance offered by the University with the exception of departmental scholarships, grants, and assistantships which must be applied for directly through the respective departments involved. Students may request the mailing of an aid application by writing in care of this office. An indication should be made as to the marital status of the applicant.

UNIVERSITY SCHOLARSHIPS

In determining a student's financial need for scholarship assistance, Virginia Commonwealth University utilizes the College Scholarship Service. Freshmen and upperclassmen must submit different forms to different places, as indicated below:

	Form Used	Where Obtained	Where Returned
<i>Freshman</i>	Freshman Parents Confidential Statement	High School Counselor or Financial Aid Office Virginia Commonwealth University Academic Center Richmond, Va. 23220	College Scholarship Service (see address on form.) Mail by April 1.
<i>Upperclassman</i>	Renewal Parents Confidential Statement	Financial Aid Office Virginia Commonwealth University Academic Center Richmond, Va. 23220	same as above

Scholarship Aid Available: The following scholarships are available at the University to be granted to deserving and qualified students:

President's Scholarships. Each year, president's scholarships are awarded to the rising sophomore, junior, and senior who have achieved the highest grade point averages in the University. These scholarships are awarded solely on the basis of academic average, with no regard to financial need.

Undergraduate Scholarships for Virginia Residents. These scholarships are awarded to undergraduate students who are residents of the Commonwealth and who demonstrate financial need and academic promise. Inquiries should be directed to the Financial Aid Office.

Departmental Scholarships. Several schools and departments have limited scholarships restricted to students enrolled in that particular school or department. Inquiries should be directed to the head of the school or department concerned.

STUDENT LOAN FUNDS

National Defense Loans. Under the National Defense Student Loan Program, as provided for by the National Defense Education Act of 1958, amended, a needy and capable undergraduate student may borrow funds to cover costs directly related to college charges for which the University bills him. Any full-time or half-time student (half-time must carry at least eight credit hours) or prospective student who has been formally accepted for enrollment in a degree program or who is enrolled in such a program may apply for a loan. Contact the Financial Aid Office for details of loan application procedures, interest accumulated, and method of repayment.

Federal Guaranteed Loans. Under the Higher Education Act of 1965, a student can obtain a loan to complete his college education. A student may apply for one of these loans through a participating commercial bank located in the state in which he resides. In Virginia, the Commonwealth (through its agent, the State Education Assistance Authority) and the Federal government co-guarantee 90 percent of the principal of these loans. For Virginia residents, a brochure describing the program and a list of participating banks may be obtained from the State Educational Assistance Authority, 1116 United Virginia Bank Building, Richmond, Virginia 23219 or from the University Financial Aid Office.

Cuban Student Loan Program. This program provides for loans, under terms similar to the terms of the National Defense Loan Program, for Cuban students who, because of current political conditions in Cuba, are unable to obtain funds. Interested students who qualify should write the Financial Aid Office for applications and information.

Johnson Memorial Loan Fund. These loans are available in limited amounts. The fund is maintained by donations from friends of the University. Inquiries should be directed to the Financial Aid Office.

Student Government Association Loan Fund. The Student Government Association has a limited number of loans to be granted in modest amounts. These loans are available to full-time students who meet the qualifications of scholastic achievement, character, and need. Inquiries should be directed to the Financial Aid Office.

Departmental Loans. Several schools and departments have limited loans restricted to students enrolled in that particular school or department. Inquiries should be directed to the head of the school or department concerned.

OTHER FINANCIAL AIDS

Educational Opportunity Grants. As provided for under the Higher Education Act of 1965, educational opportunity grants are non-repayable and are available for exceptionally needy students who, but for one of these grants, would not be able to attend college. Proposed chiefly for incoming freshmen, additional awards may be made for past expression of academic success. Awarded to undergraduates only, these grants are restricted by law to those students who are receiving, in the estimation of the Scholarship and Loan Committee, sufficient and reasonable help from parents.

Work-Study Jobs. Many students will be offered the opportunity to work in "work-study" jobs. These jobs may be on and off-campus. The jobs consume a maximum of 15 hours per week. Ordinarily, a student who is awarded a work-study job will be assigned to a particular department prior to his arrival on campus. Some few students with particular skills may not be assigned until arrival on campus.

It is most important that a student who is awarded a work-study job should expect to receive this portion of his aid in bi-weekly installments. A work-study recipient, therefore, should use his work-study earnings for such expenses as books, supplies, clothing, and other regularly recurring expenses. Work-study earnings are not credited directly to tuition, room, or board. Applications must be filed with the Financial Aid Office for consideration.

Law Enforcement Grants and Loans. A limited number of grants are awarded to students working toward improving their skills and knowledge under the law enforcement program while working for an accredited law-enforcement agency. Loans are available for full-time students. Applications must be filed at the Financial Aid Office.

Part-time Employment. A number of jobs, other than those described above, are available on campus to any student. Students who desire only a part-time job and no other financial aid should request an application for part-time employment from the Financial Aid Office.

Other Aid Sources. Many churches, fraternal organizations, civic groups, and businesses offer aid to students. As this aid is often not widely publicized, interested students should investigate possibilities in their own communities, states, and regions.

Graduate Students. Besides the financial aid mentioned above, graduate students enrolled in certain schools or departments (e.g., School of Social Work, Department of Rehabilitation Counseling) may be eligible for scholarships, loans, or assistantships. The specific school or department should be contacted regarding this aid.

GENERAL COMMENTS

Information and applications on financial aid may be obtained from the Financial Aid Office, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220. All applications should be returned as soon as possible in order to give each student the benefit of sound financial counseling.

Deadlines by which applications for financial aid should be submitted (both by currently enrolled students and by new students) and dates for availability of applications are indicated below:

<i>Financial Aid to Cover</i>	<i>Application Available</i>	<i>Date of Return</i>
September-June	October 15	April 1
February-June	October 15	December 1
Summer Session	April 1	April 30



PART IV—STUDENT LIFE

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PART IV—STUDENT LIFE

INTRODUCTION

One of the great advantages of an urban institution such as Virginia Commonwealth University is its dynamic interaction with the surrounding community providing religious, cultural, and entertainment opportunities to its students. The activities of the University supplement those of the Richmond area, and one finds students and faculty attending and participating in nearly every phase of life of the community. As VCU offers many cultural and educational programs, citizens of the Richmond area are frequent guests of the University.

Nearly every denomination has a religious facility within walking distance of the institution, and many have assigned clergymen to work closely with the students. This provides students with opportunities for worship, discussion, and counseling with members of their religious faith.

Dramatic presentations in Richmond are considerable in number, and many groups offer reduced rates for students. Musical comedies, operas, ballets, concerts, and excellent drama are brought to the Mosque and other theatres in the area. Productions of the department of dramatic art are highly respected by students and Richmonders alike, and one act plays provide the non-drama major with an opportunity to participate in dramatic works.

The VCU Department of Music presents a wide variety of programs. Student and faculty recitals, concerts by the choral group and the orchestra, as well as some of the specialized ensembles, fill the calendar and provide ample opportunity for hearing fine music both on and off campus. The Richmond Symphony Orchestra, an excellent musical organization, offers six concerts per year. These are open to students at reduced rates.

Many students find part-time jobs in the city, some on a volunteer basis and others for pay. These opportunities broaden their outlook and may help defray the cost of education.

ORIENTATION

To insure each student the opportunity to make the most of University facilities and services, the orientation program is conducted at the beginning of each semester for all freshman and transfer students. This program marks the beginning of the academic session, and new students are required to be in attendance. More detailed information, including dates, is provided in the calendar in this **Bulletin** and in notices sent from the Office of the Dean of Student Life.

STUDENT IDENTIFICATION CARDS

Students should carry their ID cards with them at all times and be ready to show them to any authorized University official who might request their identification. ID cards should be obtained by the end of the first week of classes. Cards issued after that will cost \$3. They are required for certain University functions such as borrowing a book from the library and pre-registration. Students on the board plan use their ID card as a meal pass. Any student who loses an ID card should apply to the Office of the Registrar for purchase of a duplicate.

STUDENT HOUSING

On-campus housing facilities provide a diversity of physical structure to meet the housing needs of students. Approximately 3,000 students live in University residence halls which vary in capacity from 20 to 700 and in style from old, stately homes and mansions to modern, high-rise dormitories. Thus, during his college career the student will have an opportunity to experience the rewards and demands of small and large group living.

All undergraduate women students under 21 years of age are required to live in dormitories unless living with their parents. Out-of-town males who are in their freshman year of attendance at VCU are required to live in men's dormitories.

Acceptance by the University does not guarantee housing facilities to the new student. Those women students who fall under the residence requirements as outlined above may be placed on a waiting list until space becomes available. Requests for exceptions to the residence rule must be submitted in writing on forms obtained from the Office of Student Services.

All rooms are adequately furnished, but some students wish to add personal touches and conveniences of their own. As the buildings vary in age and occupancy, it is best to wait until arrival to decide on the extra furnishings. Students provide their own pillows, bedspreads, and blankets. Towels, bed linen, and laundry service are furnished.

Rooms in the dormitories are rented for the academic year of nine months unless other arrangements are made. The student, or the parent or guardian, contracts to pay the rent for this period.

AUTOMOBILES

Dormitory students are not allowed to have automobiles except by special permission of the Dean of Student Services.

FOOD SERVICE

All freshmen and sophomore dormitory students are required to participate in the full-board plan for meals unless specifically excused by the University after written appeal. The cafeteria is open to commuter students for all meals.

HEALTH SERVICE

The Academic Division provides a small but well-staffed Health Service. Richmond has several well-staffed and equipped hospitals and laboratories as well as specialists in all fields of medicine. These facilities are used to supplement the University services in a way best suited to students' needs.

Dormitory residents are required to subscribe to the Health Service which maintains an infirmary, nursing care, and consultation service with the University physicians as well as an excellent referral system to the medical community. A limited number of non-dormitory residents are also allowed to register for the Health Service.

COUNSELING SERVICE

The purpose of the Counseling Center at Virginia Commonwealth University is to counsel any student desiring vocational, academic, or personal help. The Counseling Center's objective is to promote self-understanding and self-direction for the individual student by giving the student the opportunity to see realistically his abilities, capabilities, interests, and needs in his social and academic surroundings.

Other services provided by the University are referrals consisting of more intensive personal counseling, depending upon the needs of the individuals and vocational and personal direction.

While many students are referred to the Counseling Center by faculty advisers, the student should feel free to seek on his own the services offered by the Counseling Center.

STUDENT GOVERNMENT, STUDENT LAW, CLUBS, AND ORGANIZATIONS

The Student Government Association (SGA) operates under a constitution which is periodically reviewed and amended by the students and presented to the administration for approval. The elected officers are a president, a

vice president, a secretary, and a treasurer. There is a bicameral system of legislators, the senate representing the classes and the house of representatives elected from the schools. All positions are open to students within the guidelines of the constitution. That constitution is separately published.

The judicial branch of the student government is known as the **Student Court** and operates under a **System of Student Law**. Listed infractions are detailed in the **Student Code** as lying, cheating, stealing, plagiarism, and perjury. This system of Student Law is designed to protect the rights of all students and to assure any student charged with an infraction a fair adjudication. The **Student Code**, including appeals procedures, is separately published.

The SGA has the privilege and responsibility of allocating a major portion of the student activity fee. These allocations finance, in part or in whole, various student activities and other projects which attract student interest. Organizations such as the campus radio station, Concert and Dance Committee, and Lecture-Concert Committee receive strong support.

There are a number of professional, cultural, and social clubs or organizations catering to various interests. These clubs and organizations submit constitutions to the SGA for approval. Examples of interest groups are:

The Poetry Forum
The Film Society
The Music Students Association
Phi Beta Lambda—for business students

A complete list of clubs and organizations will be found in the Student Activities Calendar.

Through the SGA, there are specific provisions for student participation in University governance. SGA officers, class officers, or SGA appointees are represented on the University Assembly, the Council on Undergraduate Student Affairs, and various University committees. Students appointed by virtue of positions held and by other appointing sources also serve on these and other University-wide committees.

STUDENT PUBLICATIONS

Commonwealth Times. Students write and edit the **Commonwealth Times**, a newspaper. In its pages are found campus news, letters to the editor, and editorials covering timely topics.

Cobblestone. The Academic Division's yearbook, published annually by a student staff, is partially supported by the student activities fee.

Spectrum. This award winning magazine is published by students of the University to encourage the development and expression of creativity in writing. It is partially subsidized by the student activities fee.

All student publications supported by student fees are responsible to the University Student Media Board which reports to the Council on Undergraduate Student Affairs.

ATHLETICS AND INTRAMURALS

Opportunity is provided for participation in the following intercollegiate sports:

For men: Basketball, golf, wrestling, baseball, crew, and swimming.

For women: Basketball, tennis, field hockey, and swimming.

A well-organized intramural program in a variety of sports is conducted for both men and women.

GENERAL REGULATIONS

Rules and Procedures

The rules and procedures for all members of the University; faculty members, classified staff members, administrators, and students are separately published and available through the Dean of Student Life. The Interim Rules and Procedures for the Academic Year 1970-71 will be in effect until new rules and regulations, which are now being developed, are approved by the University Assembly and the Board of Visitors.

Prohibited conduct, penalties, and procedures are explicitly stated in these booklets. Certain first amendment constitutional rights are acknowledged and procedural due process rights of an accused person are protected and described.

Appeals

Persons assigned penalties for prohibited conduct have the right of appeal in accordance with procedures stated in the separate publication on Rules and Procedures.

PART V—ACADEMIC REGULATIONS

ADVISING PROGRAM

ATTENDANCE REGULATIONS

CHANGE OF MAJOR

CHANGES IN REGISTRATION

CLASSIFICATION OF STUDENTS

**CONTINUANCE IN COLLEGE FOR DEGREE SEEKERS AND
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CONTINUANCE POLICY FOR UPPER CLASSMEN

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PART V—ACADEMIC REGULATIONS

ADVISING PROGRAM

Students are responsible for knowing and fulfilling all general and specific requirements relating to the completion of their degree program.

The deans of schools and chairmen of departments, in cooperation with faculty advisers, endeavor to follow each student's academic progress. Beginning with registration, a student is assigned to a faculty adviser who, in addition to giving academic counseling, is available for advice on vocational and personal matters. Students are encouraged to seek counsel whenever there is a need. If a faculty adviser is unable to resolve a problem satisfactorily, the student will be referred to the Counseling Center, to student personnel, or academic officers, as appropriate, or to the Dean of Student Life for additional help and counseling.

ATTENDANCE REGULATIONS

The instructional program at VCU is based upon a system of class meetings involving lectures, discussion, and special reading and reporting assignments. Therefore, it is important for each student to be in attendance on a regular basis. There is no system of "cuts." If a student must miss a class session, he is expected to have sufficient initiative to make up for himself the material missed. Absences for sicknesses, athletic trips, and class field trips are the responsibility of the student. Instructors are not required to provide make-up examinations for students who miss such examinations.

If the student continues to miss classes after receiving an attendance warning, he may be dropped from the course at the instructor's discretion. Any

student who attends fewer than 75 percent of the class sessions will be dropped automatically with a grade of "F."

CHANGE OF MAJOR

If a student wishes to change his major area of concentration, he may initiate this change under the following conditions:

- a. He must be eligible for continuance in college on the basis of all credits attempted at the time he applies for a change of major and also for the semester his change of major becomes effective.
- b. A change of major must be accepted by the dean of the school and chairman of the department to which the student expects to transfer.
- c. A student may submit a change of major form to the Office of the Registrar at any time. Change of major requests, however, will not be processed during an examination period, during an advance registration period, nor during a regular registration period. Change of major forms may be obtained in the Office of the Registrar.

CHANGE IN REGISTRATION

Once a student and his adviser have planned the student's program and the student is registered, it is expected that the student will not change his registration except for special reasons approved by the student's adviser.

Add/Drop Procedure. Changes in registration will be allowed during the add/drop period provided the following procedure is followed:

- a. All registration changes for a student must be recommended and approved by his faculty adviser. Add and drop forms are provided by the adviser or registrar's office for this purpose.
- b. The student must secure the approval of the dean of the school or chairman of the department of the courses added or dropped.
- c. The student submits the add/or drop forms to the registrar's office (within the designated add/drop period) after the necessary signatures of approval have been obtained. Courses dropped during the add/drop period do not become a part of the student's permanent record.

Changes After the Add/Drop Period. No courses may be added after the add/drop period. Courses should be dropped only under justifiable circumstances.

If a student drops a course without official notification to the registrar, a grade of "WF" will be assigned for that course on the permanent record.

Approval to drop a course during the last three weeks of class instruction of a semester will be granted only under unusual circumstances. A grade of "F" is automatically assigned in cases of continuous non-attendance during this period.

CLASSIFICATION OF STUDENTS

All students, both full time and part time, are classified by credits earned as follows:

Freshmen	1 to 23 credits
Sophomores	24 to 53 credits
Juniors	54 to 84 credits
Seniors	85 credits and above

The social or class standing of all students is identical with their academic classification.

CONTINUANCE IN COLLEGE FOR DEGREE-SEEKERS AND SPECIAL STUDENTS**Satisfactory Progress**

In order to be making normal progress, a student should maintain at least a "C" average on all work attempted at this University. Since the grade of "C" carries two grade points per semester hour, the student should thus have no fewer than twice as many grade points as semester hours attempted.

Grade Point Deficiency

If the student's cumulative grade point total is less than twice the number of semester hours attempted, he is said to have a grade point deficiency. (For example, if a student has attempted 32 semester hours, his grade points should total 64. If, in fact, his grade points total only 52, the deficiency is 12.)

In the calculation of semester hours attempted, all work attempted at this University is counted, regardless of whether or not certain courses are applicable to the major program which the student is pursuing or intends to pursue at the time of calculation.

Academic Warning

A student is placed on academic warning if at the end of any semester his cumulative grade point deficiency is more than nine but less than 21.

Academic Suspension

A student is automatically suspended from this University at the end of any semester in which his cumulative grade point deficiency exceeds 20. In addition—and regardless of his cumulative grade point total—a student is suspended if his deficiency for any given semester exceeds 20 for that semester alone. The sole exception to these rules is that no freshman is suspended for academic reasons at the conclusion of his first semester at this University.

A student under suspension from Virginia Commonwealth University may not take course work at another institution for transfer to Virginia Commonwealth University.

Eligibility to Return

A student under suspension may establish eligibility to return to VCU in the fall semester by attending summer school at VCU and reducing his cumulative grade point deficiency to 20 grade points or less.

A student who attends summer school, but fails to establish eligibility in the summer school, cannot attend during the fall semester but may apply for readmission for the following spring semester. If readmitted, he must reduce his deficiency during that semester and each subsequent semester until his deficiency is no more than 20. If he fails to do so, he will be suspended for the second time.

Second Suspension

Although students who have twice been suspended from VCU are not normally readmitted, exceptions are made on occasion by the appropriate faculty committee upon written petition to the registrar via the student's academic dean.

Deadlines for Application for Readmission

Application for readmission to the spring semester must be received by December 1; and for the fall semester by August 15.

CONTINUANCE POLICY FOR UPPER CLASSMEN

All students entering RPI prior to September 1968 who have been in continuous attendance since entering (except for summers) may elect to follow the "continuance" policy in effect prior to that date.

CONTINUANCE POLICY FOR READMITTED STUDENTS

If a matriculated student at VCU (RPI) withdraws from the University and if he is eligible to continue at the time of his withdrawal, he shall be eligible for readmission. If, however, upon readmission he has a deficiency of more than 20 grade points, he must, in order to remain eligible to continue, show continual improvement in each successive term until he reduces his cumulative grade point deficiency to 20 grade points or less, or he shall be subject to suspension.

DEGREE REQUIREMENTS

In addition to the course requirements indicated in the curriculum outlines, candidates for any degree are governed by the following policies:

Degree Program. An overall grade point grade average (GPA) of at least 2.00 (a "C" average) is required on all work presented for graduation for either an associate or bachelor's degree.

Total Credits Required. The total number of semester credits required for graduation depends upon the type of degree. Specific information may be found under the several degree program descriptions in Part VI of this Bulletin.

Major Concentration. An overall grade point average of at least 2.00 is required in the courses that comprise the student's major.

Transfer Students. Transfer students are required to earn an overall grade point average of at least 2.00 on all work attempted at VCU which is to be presented for graduation either an associate or bachelor's degree at this University.

Upper Level Courses. A minimum of 45 credits are required in courses numbered 300 and 400 for bachelor degrees. Credits transferred from two-year institutions may not be used for upper level requirements.

Resident Requirement. Applicants are required to complete the last 30 credits at this institution for either an associate or bachelor's degree.

Armed Forces Service. Any student who has completed a minimum of six months' active service in any branch of the armed forces and who presents to the registrar's office proper proof of such service will be allowed up to four semester credits which can be applied only to satisfy required courses in physical education.

Correspondence Courses. Credits earned through correspondence courses are not acceptable toward a degree at VCU.

Semester Credit Limitation. A student who fails to meet degree requirements in any program after attempting a total of 150 semester credits will be denied further attendance unless he has the expressed approval of the academic status committee. Attendance at other colleges will be equated on the basis of the number of semester credits accepted toward the degree program.

Degree Application Deadline. Each student who expects to complete his degree requirements by the end of a term is required to file an application for degree at the registrar's office no later than November 1 for the fall semester, December 1 for the spring semester, or July 15 for the summer session.

GRADE REPORTS

Reports showing the standing of students in their courses are sent to parents or guardians at the middle and at the end of each semester. Mid-semester grades are not recorded on the student's permanent record, but the grades indicate the student's progress in each course at that point.

Student who have reached their 21st birthday may request the Registrar to have all grade reports sent directly to them. Students under 21 may have grade reports sent to them provided they submit to the Registrar a written statement from the parents approving such action.

GRADING SYSTEM

Grades and Grade Points. College course work is measured both in terms of quantity (semester hours of credit) and quality (grades). Grades are assigned according to a letter system with each letter being assigned a grade point value. The letter grades and grade point values are as follows:

Grade Symbol and Meaning	Grade-Point Value per Semester Credit
A—Superior	4
B—Good	3
C—Average	2
D—Passing	1
F—Failing	0
I—Incomplete	0
W—Withdrawn	0
WF—Withdrawn Failing	0
WP—Withdrawn Passing	0
AB—Absence from final examination	0
AU—Audit	0

The above scale is known as the four-point grading system since four is the highest grade-point value assigned.

The number of grade points earned is computed by multiplying the grade-point value for the letter grade by the number of semester credits for the course. As an example, a student receiving an "A" (i.e. 4 grade points) in the first semester of freshman English (3 credits) receives 12 grade points.

Grade-Point Average. The grade-point average (GPA) is computed by dividing the number of grade points earned by the number of credits attempted.

Grade of "D". Subjects passed with a "D" grade or higher may not be repeated. The one exception to this policy is as follows: the chairman of the department concerned may recommend that a course be repeated if the course is specifically required in the major concentration and if there is no appropriate substitute. This recommendation should be made only in unusual circumstances and must be approved by the dean of the school involved. If a course with a "D" grade is repeated, the semester hours attempted and the grade points earned for both attempts are included in computing the cumulative grade point average.

The dean of the school concerned may also recommend that a student strengthen his background by repeating a "D" course on an **Audit** basis.

Grade of Incomplete. A grade of Incomplete presupposes that the student is doing passing work on the completed portion of the course but, because of illness or bona fide emergency situations, is unable to meet all of the requirements of the course by the end of the term. A mark of Incomplete should not be given without an understanding between the instructor and the student. The maximum time limit for the removal of an Incomplete is the end of the last day of classes of the next semester following the semester (or summer session) in which the Incomplete was incurred. At the end of the succeeding semester, an unremoved grade of Incomplete is automatically changed to a failing grade. Exceptions to this procedure must be approved by the dean of the school involved upon the recommendation of the instructor prior to the time limit, and a statement must be filed with the registrar.

Grade of W. Withdrawn indicates that the student has officially dropped a course before the mid-semester reports for any given semester have been filed.

Grade of WF. Withdrawn failing indicates that a student was failing the course at the time of an official drop, after the mid-semester reports are filed and prior to the last three weeks of class instruction of a semester.

Grade of WP. Withdrawn passing indicates that a student was passing the course at the time of an official drop, after the mid-semester reports are filed and prior to the last three weeks of class instruction of a semester.

Students are not permitted to drop a class during the last three weeks of class instruction of a semester. A grade of "F" is automatically assigned in cases of non-attendance during this period.

Grades of "I," "AB," and "WF" are included in the courses attempted by a student during a semester, whereas grades of "W" and "WP" are not considered a part of a student load attempted in a given semester.

Absence from Final Examination. If a student is excused from the final examination by one of the student personnel deans, the instructor should report an "absence" (AB) on the grade sheet. If the student's absence is not excused by a student personnel dean, he is automatically given "F" in the course. Students are not permitted to take a make-up examination without official permission from the Student Personnel Office. Approved make-up examinations should be taken at the earliest possible opportunity after the final examination is scheduled. Students who miss a final examination due to an emergency must notify the Student Personnel Office within 48 hours after the examination is scheduled to begin.

Audit. Upon the approval of the student's adviser and class size permitting, a student may register for a course on an audit basis. Audit students are charged the regular rate of tuition and fees, and an audit course is counted as a part of the student's semester load. A student registered on an audit basis, however, is not subject to attendance regulations and is not required to take tests or the final examination. Students enrolled for audit are not given a grade, and their records are marked "Audit."

A change in registration from "Audit" to "Credit" or vice versa must be effected during the add/drop period. A course taken for audit cannot be given credit by examination at a later date.

MATRICULATION

A student has matriculated when he has been admitted as a regular undergraduate student in a degree program. All degree candidates must be matriculated students. Non-matriculated students are classified as "special" students. Special students desiring degree-seeking status must file an application for regular undergraduate admission.

Degree programs are outlined in Section VI of this **Bulletin**.

SCHOLARSHIP HONORS

Dean's List. A student is placed on the dean's list for one semester if he has made a grade point average of 3.50 in the preceding semester, based on a minimum load of 15 credits with no grade below "C." Students with grades of Incomplete or absent from the final examination are not eligible for the dean's list.

Graduation Honors. Candidates for a bachelor's degree are eligible for special scholarship recognition under the following conditions:

High Honors. Students with a cumulative grade point average of 3.60 or above through the first semester of the senior year on all courses attempted toward the degree awarded.

Honors. Students with a cumulative grade point average of 3.30 or above through the first semester of the senior year on all courses attempted toward the degree awarded.

A transfer student to qualify for graduation honors for the baccalaureate degree is required to complete a minimum of 45 credits by the first semester of his final year at this institution with a scholastic average at VCU of 3.60 for high honors or 3.30 for honors, supported by equivalent performance on all credits attempted elsewhere to make a combined average of 3.60 for high honors or 3.30 for honors.

Recognition of graduation honors will be made on the student's diploma, his permanent record, and in the Commencement program.

STUDENT LOAD

A semester credit, the unit by which courses are measured, is defined as one hour per week of lecture-recitation or not less than two hours per week of laboratory work throughout a semester.

Full-time Students. The normal full-time student load constitutes a minimum of 12 credits and a maximum of 19 credits. The maximum load is approved only when there is every evidence that the student can carry such a load successfully.

Part-time Students. A student is classified as "part time" if during any semester he is registered for no more than 11 credits. The term "part time" applies to degree-seeking students, as well as to non-degree-seeking students.

Overload. Permission for overloads (20-21 credits) are approved only in the following cases:

- a. A senior in good standing who by taking no more than 21 credits can be graduated in the current academic year.
- b. A student in good standing who has earned at least 60 credits toward degree requirements and who has an academic average of "B" (not less than a grade point average of 3.00).

Students will be charged \$19 per credit for each credit over 19.

TRANSCRIPTS

Transcripts of a student's academic records are issued only upon the written request of the student and should be requested two days prior to the date needed.

Two free transcripts will be issued for each student. A charge of \$2 will be made for each additional transcript.

Transcripts given directly to students do not carry the University seal and are not official. The seal is attached when the transcript is mailed directly from the University to another college or authorized persons.

WITHDRAWAL FROM COLLEGE

If a student finds it necessary to withdraw before the end of a semester, he must complete a withdrawal form obtained from the Office of the Dean of Student Life.

If a student withdraws officially from the University before mid-semester grades have been filed, his permanent record will indicate a grade of "W" for Withdrawal for each course being pursued.

If he withdraws officially after mid-semester grades have been filed, and prior to the last three weeks of class instruction of a semester, his permanent record will indicate grades of "WP" for Withdrawn Passing or "WF" for Withdrawn Failing, based upon the mid-semester grade of each course being pursued or assigned by the individual instructors of courses being pursued at the time of withdrawal.

Withdrawal from the University during the last three weeks of classes will be permitted only under unusual circumstances. If permission is granted, grades of "WF" or "WP" will be assigned by the individual instructors of courses being pursued at the time of withdrawal.

If a student withdraws from college without permission, his permanent record will carry a notation, "Withdrew Unofficially," and grades of "F" will be assigned for each course pursued at the time of unofficial withdrawal.

PART VI—DEGREE PROGRAMS AND COURSES OF STUDY

GENERAL COURSE INFORMATION

SUMMARY OF DEGREE PROGRAMS BY LEVEL

Associate Degrees

Bachelor's Degrees

Graduate Degrees

ORGANIZATION OF INSTRUCTIONAL DEPARTMENTS

GENERAL STUDIES PROGRAM

SCHOOL OF THE ARTS

SCHOOL OF ARTS AND SCIENCES

SCHOOL OF BUSINESS

SCHOOL OF COMMUNITY SERVICES

SCHOOL OF EDUCATION

CURRICULUM IN ENGINEERING

SCHOOL OF ENGINEERING TECHNOLOGY

SCHOOL OF OCCUPATIONAL THERAPY

SCHOOL OF SOCIAL WORK

PART VI—DEGREE PROGRAMS AND COURSES OF STUDY

GENERAL COURSE INFORMATION

Course Numbering. Courses numbered in the 100 and 200 series comprise the lower division offerings and are open to freshmen and sophomores; courses numbered in the 300 and 400 series comprise the upper division offerings and are generally open to juniors and seniors. Exceptions to this general policy must be approved by faculty advisers at the time of registration.

Courses in the 500, 600, and 700 series are for college graduates who have been admitted as regular or special students to the graduate program. Courses in the 500, 600, and 700 series are described in the **Graduate Bulletin**.

Evening College offerings are the same as those listed herein. Specific courses scheduled for evening in any semester will be listed in the **Evening College Bulletin**.

Summer School offerings are the same as those listed herein. Specific courses scheduled for any summer session will be listed in the **Summer School Bulletin**.

Course Interpretation. Generally, odd numbers indicate first semester courses; even numbers, second semester courses.

A course listed by a single number, as Business 121, indicates that it is a one-semester course and may be offered each semester or only one semester each year.

A course listed with a double number, as History 201, 202 and designated as semester courses, consists of two semester courses, either semester of which may be taken without the other.

A course listed with a double number, as English 101-102 and designated as a continuous course, consists of two semester courses, the first of which can be taken without the second, but the second of which cannot be taken without the first.

A course listed with a double number, as Chemistry 101-102 and designated as a year course, means that no credit will be counted toward a degree for the first semester unless followed by the successful completion of the second semester of that course.

The University reserves the right to withdraw any course or program for which there is an insufficient demand.

SUMMARY OF DEGREE PROGRAMS BY LEVEL

Degree programs in the Academic Division of the Virginia Commonwealth University are offered in the following general levels:

- Associate Degrees (generally two-year programs)
- Bachelor's Degrees (generally four-year programs)
- Master's Degrees (one- and two-year programs)

Associate Degree Programs

Two-year degree programs are offered to those students who do not expect to complete a four-year curriculum. The following degree programs lead to the Associate degree:

Associate in Arts Degrees:

Arts and Sciences

Law Enforcement

Associate in Science Degrees:

Mechanical Engineering Technology (Air Conditioning and Refrigeration Technology)
Information Systems
Civil and Highway Technology

Drafting and Design Technology
Electrical-Electronics Technology
General Secretarial
Legal Secretarial
Medical Secretarial

Bachelor Degree Programs

Four-year degree programs are offered in each of the areas listed below, leading to the degree indicated:

Bachelor of Arts Degrees:

Chemistry
English

French
History

Bachelor of Fine Arts Degrees:

Art Education	Dramatic Art and Speech
Art History	Fashion Design
Communication Arts and Design	Interior Design
Crafts	Painting and Printmaking
Drama Education	Sculpture

Bachelor of Music Degrees:

Applied Music	Theory
Music History and Literature	Composition
Sacred Music	

Bachelor of Music Education Degree:

Music Education

Bachelor of Science Degrees:

Accounting	Law Enforcement
Advertising	Management
Biology	Marketing
Biology Education	Mathematical Sciences
Business Administration	Mathematics Education
Business Education	Physics
Chemistry	Physics Education
Chemistry Education	Psychology
Distributive Education	Recreation
Economics	Retailing
Elementary Education	Science
English Education	Science Education
French Education	Office Administration
Health and Physical Education	Sociology
History and Social Science Education	Social Welfare
Education	Special Education
Journalism	

Graduate Degrees:

The following graduate degree programs are offered in the Academic Division of Virginia Commonwealth University. More detailed information is published in the **Graduate Bulletin**.

Master of Arts:

Art History

Master of Fine Arts:

Crafts	Printmaking
Dramatic Arts and Speech	Sculpture
Painting	

Master of Art Education:

Art Education

Master of Education:

Administration and Supervision

Counselor Education

Elementary Education

Distributive Education

Special Education

Emotionally Disturbed

Mentally Retarded

Master of Music:

Applied Music

Church Music

Composition

Education

Theory

Master of Music Education:

Music Education

Master of Science:

Business

Chemistry

Psychology—Applied

Psychology—Clinical

Rehabilitation Counseling

Sociology

Master of Social Work:

Social Work

ORGANIZATION OF INSTRUCTIONAL DEPARTMENTS

The Academic Division of Virginia Commonwealth University is organized into the following school and departments:

School of the Arts

Foundation Program

(for all first-year art students)

DIVISION OF DESIGNCommunication Arts and Design
Department

Fashion Design Department

Interior Design Department

DIVISION OF FINE ARTS

Art Education Department

Art History Department

Crafts Department

Painting and Printmaking Department

Photography Department

Sculpture Department

DIVISION OF PERFORMING ARTS

Dramatic Arts and Speech Department

Music Department

School of Arts and Sciences:

Biology Department
 Chemistry Department
 English Department
 Foreign Languages Department
 History, Political Science, and
 Geography Department
 Journalism Department
 Mathematical Sciences
 Department

Philosophy and Religious Studies
 Department
 Physics and Physical Science
 Department
 Psychology Department
 Sociology and Anthropology
 Department

School of Business:

Accounting Department
 Advertising Department
 Business Education and Office
 Administration Department
 Economics Department

Information Systems Department
 Business Administration and
 Management Department
 Marketing Department
 Retailing Department

School of Community Services:

Administration of Justice
 and Public Safety
 Recreation Department
 Rehabilitation Counseling Department
 Social Welfare Department

School of Education:

Counselor Education Department
 Distributive Education Department
 Elementary Education Department
 Health and Physical Education
 Department
 Special Education Department

Secondary Education Department
 with coordinated programs in
 Art Education
 Biology Education
 Business Education
 Chemistry Education
 Drama Education
 English Education
 French Education
 History and Social Science
 Education
 Mathematics Education
 Music Education
 Physics Education
 Science Education

ENGINEERING CURRICULUM

The University offers the first two years of a typical engineering curriculum. Students who complete the program are assisted, as possible, in transferring to schools of engineering offering the baccalaureate degrees.

School of Engineering Technology:

Mechanical Engineering Technology
(Air Conditioning and Refrigeration) Program
Civil and Highway Technology Program
Drafting and Design Program
Electrical-Electronics Technology Program

School of Occupational Therapy**School of Social Work:**

A Graduate Program

GENERAL STUDIES PROGRAM

F. DANA PAYNE, Director
VIVIAN N. WILLIAMSON, Associate Director

In recognition that some students seeking admission to Virginia Commonwealth University will not have chosen a field of concentration by the time they apply or enroll, the University has provided a general one-year exploratory program of studies. This program is flexible enough to suit the interests of any uncommitted student, yet it is basic to a number of fields of study. During the year of study, the student is encouraged to investigate various fields of study until he finds a curriculum which suits his interests and needs. The admission requirements for this program are similar to those of the school of arts and sciences.

Students enrolling in the general studies program are encouraged to select a major field of concentration by the end of one year of study. A student will not be allowed to register for more than 60 hours as an exploratory student.

SUGGESTED COURSES FOR GENERAL STUDIES STUDENTS AMONG VARIOUS SCHOOLS**A. Most Transferable Courses**

English 101
History 101, 103, 201
Psychology 201
Sociology 101
Speech 121
Biology 101
Economics 201
Mathematics (choice among 101, 102, or 113)
Physical Education

B. Second Level of Most Transferable Courses

Political Science 201	Afro-American Studies 100
Art History 103	Philosophy 101 or 201

If school is probably arts:

English 101
Art History 103
Art Education 121—Principles of Art
Speech 121
Drama 203
Drama 111
Fashion Art and Design 251E
Interior Design 221E
Painting and Printmaking 055E
Photography 243E
Music 243—Music Appreciation

If school is probably arts and sciences:

English 101
History 101, 103, or 201
Mathematics 101, 102, or 113 (placement test)
Biology 101
Foreign Language (placement test)
Physical Education

If school is probably business:

English 101
History 201
Business 101
Business 121
Speech 121
Physical Education

If school is probably community services:

Community Services 115
English 101
Mathematics 113
Approved Electives
Electives

If school is probably education:

English 101
History 201
Mathematics 115
Psychology 201
Elective in area you may wish to teach or Education 300, 301, or 302 or
Economics 203
Physical Education

If school is probably Engineering:

See Engineering Section in the catalog or Mr. C. A. B. Foster, 108 Science Building

If school is probably Engineering Technology:

Basic Refrigeration—ACT 103

Basic Air Conditioning—ACT 110

Engineering Drawing—DDT 109

Applied Electricity—EET 107

Blueprint Reading (machine)—DDT 101

Construction Plans and Specification—DDT 167E

Materials and Methods of Construction—DDT 117-118

English Communications (Report Writing)—ENGLISH 107

Electricity—EET 107

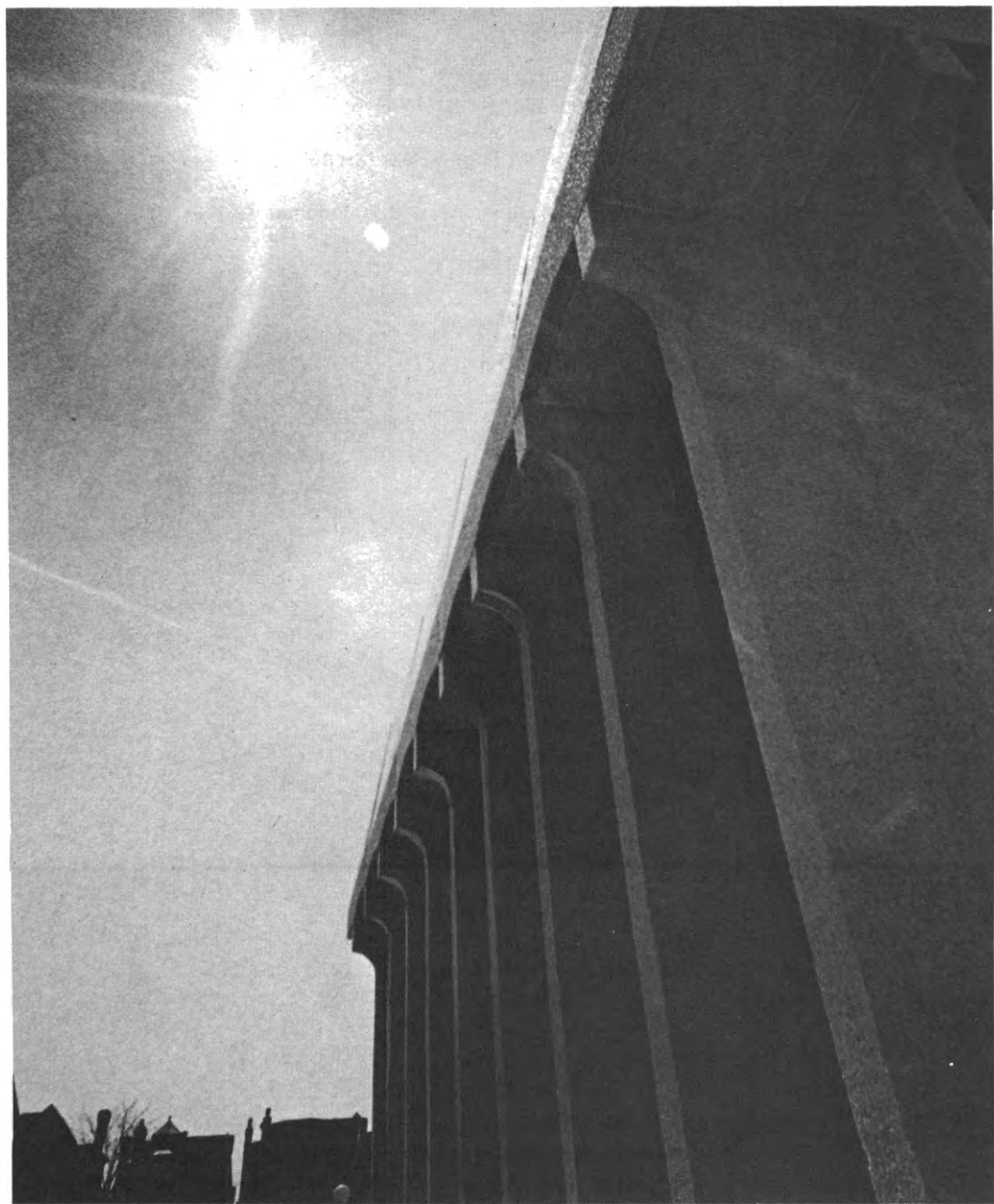
Technical Mathematics: Algebra, Geometry, and Trigonometry—109-110

Soil Mechanics—CHT 259-260

Urban Planning—DDT 256E

If school is probably Occupational Therapy:

See Mr. C. A. Kooiman, 216 Raleigh Building.



THE SCHOOL OF THE ARTS

HERBERT J. BURGART, Dean

MURRY N. DePILLARS, Assistant Dean

ROBERT F. HESTER, Assistant Dean

ALICE B. DEAL, Librarian, School of the Arts

JOSEPH SCHWARZ, Director, Graduate Studies Office

BRUCE M. KOPLIN, Director, Anderson Gallery

The School of the Arts of Virginia Commonwealth University had, as its beginning, a sculpture course offered in 1926. In 1928, a one-faculty art department was formed under the direction of Miss Theresa Pollak and since that date has grown to its present organization, achieving national recognition through its quality program in the visual and performing arts.

In 1969, the Department of Dramatic Art and Speech and the School of Music, formerly independent units within Virginia Commonwealth University, were combined with the School of Art to form the present School of the Arts.

The School of the Arts is accredited by the National Association of Schools of Art and the National Association of Schools of Music.

The School of the Arts offers a distinctly professional program in which students devote the greater portion of each day to professional courses in the arts. Located within an urban complex of higher education, students are provided with both the advantages of comprehensive facilities as well as professionally competent faculty. It is the only state-supported professional

school of the arts in the South and one of the few in the nation offering a professional curriculum within a combined academic and professional environment.

Baccalaureate programs within The School of the Arts are designed to prepare creative leaders in the visual and performing arts professions. Emphasis is placed on the development of individual competencies in the arts through the following departments which make up The School of the Arts:

Fine Arts Division

Art Education
Art History
Crafts
Painting and Printmaking
Photography
Sculpture

Division of Design

Communication Arts and Design
Fashion Design
Interior Design

Performing Arts Division

Music
Dramatic Art and Speech

Graduates of these departments have earned an impressive list of honors, prizes, scholarships, and fellowships through state, regional, and national competitions. School of the Arts graduates occupy responsible positions of leadership nationally and participate at the highest level throughout the creative professions.

Transfer Students

Placement in all upper level courses is determined by departmental faculty committees, following evaluation of the student's record, performance, audition and/or the student's creative work. The student should contact the appropriate department chairman at the time of acceptance in order to arrange for such evaluation prior to enrollment.

Special Study in Studio Art

A limited number of exceptionally talented students may be allowed to complete three years of work or 90 semester credits entirely in art studio courses as recommended by the head of the departments of crafts, painting and printmaking, or sculpture. The University makes no award upon completion of this professional work.

Special Charges (See page 27 also)

All majors enrolled in the School of the Arts are charged a comprehensive lab fee of \$25 each semester. Non-art majors enrolled in any of the numerous courses which require an additional outlay for materials will be billed for those individual fees by the business office.

Academic Requirements

All majors within The School of the Arts are required to earn a minimum of "C" in all major work attempted in order to remain in their departments.

Evaluation of the record of each student will be made periodically by the department and student's advisor. If, at any time during undergraduate studies, the departmental faculty concludes that a student is not demonstrating adequate progress in his area of concentration, he will be requested to withdraw from that department.

Course offerings in any professional curriculum are open only to matriculated students in that program. Exceptions must have the approval of the department chairman.

In view of the sequence in which course work is arranged, only transfer students will be considered for admission at mid-year.

In many of the courses, a considerable amount of work is, necessarily, done outside of class. Such work is in addition to that of the scheduled classes which students are required to attend.

Students should contact the appropriate department chairman, prior to enrollment, for a more detailed curriculum outline than that which is contained in this **Bulletin**.

All beginning students in fine arts and design divisions are enrolled in the Foundation Program:

Foundation Program

BRUCE M. KOPLIN, Coordinator

All beginning art students and transfer art students, as necessary, will take part in the Foundation Program. It is a common freshman year which provides the basic concepts, skills, and experiences necessary for admittance to advanced professional studio work in each department. In the program, career opportunities in the entire field of art are discussed. The student, in making initial application to VCU, will receive a packet to submit for final acceptance. It is important that the student indicate his professional interest(s). However, the student who has been accepted and placed in the Foundation Program will not have a departmental affiliation until after the screening of portfolios which occurs during his spring semester. At that time, all students will be given the opportunity to apply to the department of their choice, when decisions will be made on individual student performance and competency in the chosen area.

Art Foundation Curriculum

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
Art 101-102. Basic Design	5	5
Art 103-104. Drawing Fundamentals	4	4
Art 105-106. Arts History Survey	4	4
English 101-102. Composition and Literature	3	3
Electives	1	1
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Graduate Studies Program

JOSEPH SCHWARZ, Director

The School of the Arts offers graduate programs leading to the Master of Fine Arts (M.F.A.), Master of Art Education (M.A.E.), Master of Arts (M.A.), Master of Music (M.Mus.), and Master of Music Education (M.Mus.Ed.) degrees with major and minor concentrations in various departments. Detailed information is available through the **School of the Arts Graduate Studies Bulletin**.

DIVISION OF DESIGN

The departments within the Division of Design reserve the right to retain selected student work for departmental collections.

DEPARTMENTS	CREDITS REQUIRED
Communication Arts and Design	133
Fashion Design	130
Interior Design	132

Majors enrolled in departments within the Division of Design must satisfactorily complete the credits indicated above for the Bachelor of Fine Arts degree. Of these totals the following are required in all programs:

Foundation Program: 32 credits, Literature: 6 credits, Approved Electives: 8 credits.

The remaining credits for the degree must be in prescribed departmental and/or other professional courses, liberal arts, and other approved electives.

COMMUNICATION ARTS AND DESIGN

NICHOLAS APGAR, Acting Chairman of the Department

William Bevilaqua / Arthur Biehl / Jonathan Bowie / John Hilton
Charles Magistro / Michael McNeil / Philip Meggs / William Phelan
David Porter / Charles Scaln

This department offers instruction in two- and three-dimensional design for communication, including advertising, illustration, typography, film, and production techniques.

The purpose of this department is to prepare the student with a sound, well-rounded background for creative and technical achievement throughout his professional life. Transfer students must submit a portfolio of work before April 1 and after they have made formal application to the VCU Admissions Office. Sophomores and juniors are required to submit work for faculty review in the second semester of each year.

Upon completion of the four-year program, the student will have a portfolio of professional work to show advertising agencies, communication buyers, or employers.

Estimated additional expenses for materials, equipment, and services is \$1,000-\$1,500 per year.

Degree Requirements in Communication Arts and Design

In addition to those credits listed above which are required in all programs in the Division of Design, majors in Communication Arts and Design must complete the remaining credits listed below for the degree.

Design and Study Concentration	32
Graphics or Methodology	14-20
Drawing and Color	8-14
Photography	14
Seminar	1
Advanced Art History	6
Approved Elective	6
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FASHION DESIGN

OTTI Y. WINDMUELLER, Chairman of the Department

Vickie G. Hale / Sophie A. Saleh / Sidney A. Schatzky / Charles O. Sigler
Part time—Nancy S. Herrington

The emphasis of the Department of Fashion Design is to help prepare students to create fashions which meet professional standards in **haute couture** as well as in the garment industry. The main objective is to stimulate and to develop creative talent for the field of fashion. Graduates are prepared to assume positions as fashion designers, buyers, coordinators, and stylists.

Degree Requirements in Fashion Design

In addition to those credits listed on page 66, which are required in all programs in the Division of Design, majors in Fashion Design must complete the remaining credits listed below for the degree.

Construction	4
Distribution and Promotion	6
Draping and Design	24
History of Apparel	6
Illustration and Design	8
Millinery Design	9
Pattern Drafting and Design	24
Textiles	3

INTERIOR DESIGN

BEN D. GUNTER, Chairman of the Department

John J. Armstrong / J. Jewett Field / Dorothy T. Hamilton

Dorothy M. Hardy / Robert F. Hester / John L. Long / Novem Mason
Ringo Yung

Part time—Rudolph O. Berger / Helen Dierks / Lloyd D. Fitzsimmons
Anne P. Ryland / Maurice J. Ullman

This professionally-oriented program is planned to prepare students for responsible positions as interior designers. The diverse opportunities and challenges of such positions include contract (public) as well as residential interiors. Students are trained to solve a multiplicity of interior space problems realistically and creatively, as well as to furnish and equip interiors.

Field trips are an important part of some of the departmental courses, and students are expected to participate in these trips. The expenses of these trips is in addition to the tuition and should not exceed \$100 per year.

Degree Requirements in Interior Design

In addition to those credits listed on page 66, which are required in all programs in the Division of Design, majors in Interior Design must complete the remaining credits listed below for the degree.

Architecture	13
Business Considerations	10
Design	42
Furniture Design	6
Graphics	6
Advanced Art History	6
Approved Elective	3
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FINE ARTS DIVISION

The departments within the Fine Arts Division reserve the right to retain selected student work for departmental collections.

DEPARTMENTS	CREDITS REQUIRED
Art Education	134
Art History	
Liberal Arts Emphasis	124
Studio Emphasis	124
Crafts	132
Painting and Printmaking	130
Photography	No Degree Offered
Sculpture	128

Majors enrolled in departments within the Fine Arts Division must satisfactorily complete the credits indicated above for the Bachelor of Fine Arts degree. Of these totals, the following are required in all degree programs.

Foundation Program: 32 credits, Literature: 6 credits (or Approved Humanities Electives for Art Education), Advanced Art History: 3 credits, Approved Electives: 14 credits.

The remaining credits for the degree must be in prescribed department and/or other professional courses, liberal arts, and other approved electives.

ART EDUCATION

ALAN LANDIS, Chairman of the Department

Edward Bleicher / Gerald Byerley / Glenn Hamm / Priscilla Hynson
Allen Lewis / Arthur Miller / Alan Schantz / Dorothy Simpson

Part time—Barbara Ames / Viola Butzner

The purpose of the Department of Art Education is to provide both a breadth and depth of preparation in the arts as well as the necessary academic and professional courses in order to qualify students for teaching and administrative positions in the public schools. A portfolio of work is required of all transfer students.

Degree Requirements in Art Education

In addition to those credits listed on page 68, which are required in all programs in the Fine Arts Division, majors in Art Education must complete the remaining credits listed below for the degree.

Art Education Seminars	5
History	3
Mathematics	6
Professional Education	17
Science	8
Survey and Methods of Art Education	9
Three-Dimensional Studios	14
Two-Dimensional Studios	14
Approved Electives	3

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ART HISTORY

MAURICE BONDS, Chairman of the Department

Alice B. Deal / C. Krishna Gairola / Sharon H. Gallagher
Katherine N. Gilbert / H. Gilda Hinter-Reiter / Bruce M. Koplin
William H. Lumpkins / John D. Lyle / Walter I. Ne. Halsingh*
Regenia A. Perry / Allan E. Ross

Part time—Carole Kass

* On leave 1971-72.

The Department of Art History, as part of a professional art school, makes it possible to offer two distinct curricula: A. with a liberal arts orientation and; B. with a studio orientation. The liberal arts curriculum (A) prepares the future art historian to continue studies at the graduate level in his field. Program B is designed for the artist-historian who is interested in preparing for both studio and art history. Students must elect one of the two programs upon completion of the sophomore year.

Degree Requirements in Art History

In addition to those credits listed on page 68, which are required in all programs in the Fine Arts Division, majors in Art History must complete the remaining credits listed below for the degree.

LIBERAL ARTS ORIENTATION (A)		STUDIO ORIENTATION (B)	
Advanced Art History	15	Advanced Art History	15
French or German	12	French or German	12
History	12	History	6
Speech	3	Aesthetics	6
Aesthetics	6	Fine Arts Studio	24
Museum Methods or Project ..	12	Electives	6
Archeology or Religion	3		—
Electives	6		69
	—		
	69		

CRAFTS

RICHARD A. BUTZ, Chairman of the Department

Allan Eastman / Regina Medley / Gilbert Reed / Joseph DiStefano

Thomas Siefke / Nancy Thompson / Kenneth Winebrenner

The Department of Crafts offers curricula leading to professional careers or graduate work in ceramics, metal, jewelry, weaving and textile design, and furniture design. A four-year curriculum leading to the Bachelor of Fine Arts Degree is offered.

The courses in this department are open to all students in the University, but must be taken in sequence starting at the 200 level in each media area. Majors must present a portfolio to the faculty for approval prior to graduation.

Degree Requirements in Crafts

In addition to those credits listed on page 68, which are required in all programs in the Fine Arts Division, majors in Crafts must complete the remaining credits listed below for the degree.

Advanced Art History	3
Basic Crafts	18
Advanced Crafts	36
Approved Electives	20
	—
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PAINTING AND PRINTMAKING

RICHARD KEVORKIAN, Chairman of the Department

James Bradford / James Bumgardner / Jewett Campbell / Richard Carlyon
 Gerald Donato / Ramon Dougherty / Salvatore Federico / David Freed
 Ronald Jackson / Bernard Martin / Theresa Pollak (Professor Emeritus)
 Milo Russell / Joseph Schwarz / Jack Solomon / David Sucec
 Philip Wetton / Morris Yarowsky

Part time—David Sauer

The Department of Painting and Printmaking attempts to establish a foundation for the creative person who desires to attain professional status as a painter or printmaker.

As the student progresses, he is given an increasing amount of freedom; and as he demonstrates his acquisition of skill and insight, he is encouraged to explore more individually in all areas of his creative work. During the junior and senior years, most students concentrate in the area of either painting or printmaking.

Degree Requirements in Painting and Printmaking

In addition to those credits listed on page 68, which are required in all programs in the Fine Arts Division, majors in Painting and Printmaking must complete the remaining credits listed below for the degree.

Drawing	6
Painting and Printmaking (Basic)	14
Painting or Printmaking (Intermediate)	6
Painting or Printmaking (Advanced)	6
Advanced Art History	3
Sculpture	8
Approved Electives	32
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PHOTOGRAPHY

GEORGE D. NAN, Chairman of the Department

Neil D. Beitzell / Clifton Dixon / Steven J. Grabinski / Dale Quarterman

The Department of Photography services the needs of The School of the Arts and the University at-large. It offers courses in basic and intermediate photography and color workshops. A limited amount of super 8mm film experience is offered on the intermediate level. Students learn the basic techniques of photography and proceed to develop the visual senses on an advanced level.

The department does not offer a degree in the area of photography.

SCULPTURE

HAROLD E. NORTH, Chairman of the Department

Myron Helfgott / Charles R. Henry / José R. Puig / Charles R. Renick

Thomas Silver / Lester Van Winkle

The Sculpture Department exists for the creative person who wishes to structure his ideas by manipulating tangible materials. The goal of the Sculpture Department is to instill in the student a sense of pride based on competence and to help him develop methods of working and an attitude which will sustain him in his professional and personal growth as a sculptor.

Degree Requirements in Sculpture

In addition to those requirements listed on page 68, which are required in all programs in the Fine Arts Division, majors in Sculpture must complete the remaining credits listed below for the degree.

Individual Project	8
Painting and Printmaking (Basic)	14
Painting and Printmaking (Intermediate)	6
Sculpture (Basic)	8
Sculpture (Intermediate)	8
Sculpture (Advanced)	8
Advanced Art History	3
Approved Electives	18
	<hr/>
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PERFORMING ARTS DIVISION**DEPARTMENTS AND AREAS OF CONCENTRATION CREDITS REQUIRED****MUSIC**

Brass, Woodwinds, or Strings	128
Music Education	130
Music History and Literature	130
Organ	126
Piano	130
Sacred Music	130
Theory and Composition	128
Voice	130

DRAMATIC ARTS AND SPEECH

Acting	124
Design	124
Directing	124
Drama Education	127

MUSIC

CHARLES J. CAMPBELL, Chairman of the Department

L. Wayne Batty / Milton Cherry / Gisela Depkat / Mary Jane Fitzpatrick
Leonard Gibbs / Robert Lawes / Ardyth Lohuis / Edward Mirr
Carl Pfeifer / Richard Rivers / Virginia Rouse / L. Frederick Marraffie
J. Lawrence Robinson / Donald Tennant / Edwin Thayer / Sonia Vlahcevic
Melissa Wuslich / Peter Zaret

Part time—Betty Alan / Edward G. Altman / Alger Batts / Judith Britton
Charles Drysdale / Elizabeth Grainer / Betty Jennings / Edward Kiehl
James Moore, III / John A. O'Bannon / Caroline Payne / Dorothy Pfeifer
David Townsend / Delbert Williams / Helen Spiers

General Information

The Department of Music offers a diversified but comprehensive program to help the student acquire the complex intellectual, technical, and artistic skills to enable him to meet the multiple demands of music in a modern society.

The requirements for entrance and graduation are in accordance with the published regulations of the National Association of Schools of Music. An audition is required for admission. All entering freshmen must take an aural-written examination as part of the audition. Candidates for all degree programs must pass a proficiency examination. Student attendance at designated recitals or concerts is required.

Fees*

In addition to those fees which are listed elsewhere in the catalogue, students in music are charged \$220 for instruction in their applied major. In addition, a \$10 deposit is required for each university-owned instrument used. This fee will be returned, less any repair charges, when the instrument is returned.

Degree Requirements in Applied Music Areas

Majors enrolled in applied music concentrations must satisfactorily complete the credits indicated on page 72 for the Bachelor of Music degree. Of these totals, the following are required in all areas of concentration.

English: 6 credits, History: 6 credits (or Italian for voice majors),
Applied Music Major: 24 credits, Applied Music Minor: 4 credits,
Literature and Structure of Music: 36 credits, and Keyboard Harmony:
2 credits.

In addition to the above credits, majors in Applied Music must complete the remaining credits listed below for the appropriate program.

* The right is reserved to change fees for individual lessons and applied music.

Brass, Woodwinds, or Strings

Applied Music Minor	4
Ensemble	8
Junior and Senior Recitals	—
Orchestra and Band	12
Literature	6
Approved Electives	20
	—
	50

Piano

Ensemble	4
Junior and Senior Recitals	—
Keyboard Skills	4
Large Ensemble*	4
Pedagogy	4
Piano Literature	4
Approved Electives	32
	—
	52

Organ

Church Music	2
Chorus or Ensemble Elective	8
Keyboard Skills	4
Organ Design and Literature	4
Recitals	—
French and German	12
Approved Electives	18
	—
	48

Voice

Chorus	6
Junior and Senior Recitals	—
Opera Workshop	4
Pedagogy	4
Vocal Repertoire	2
Acting	6
French and German	12
Approved Electives	18
	—
	52

Degree Requirements in Music History and Theory Areas

Majors enrolled in Music History and Theory concentrations must satisfactorily complete the credits indicated on page 72 for either the Bachelor of Music or Bachelor of Music Education degree. Of these totals, the following are required in all areas of concentration.

English: 6 credits, Literature and Structure of Music: 36 credits, Keyboard Harmony: 2 credits.

In addition to the above credits, majors in Music History and Theory must complete the remaining credits for the appropriate program listed below.

Music Education

Applied Music Major	14
Instrumental Skills	7
Large Ensemble*	4
Methods and Materials	3
Biology	8
History	6
Mathematics	6
Professional Education	19
Approved Electives	19
	—
	86

Sacred Music

Applied Music Major	24
Applied Music Minor	8
Chorus or Vocal Ensemble	8
Church Music	10
Keyboard Skills	2
Organ Design and Literature	4
Recitals	—
Service Playing and/or Conducting	3
German or French	12
Approved Electives	15
	—
	86

* Large ensemble includes chorus, orchestra and band, and women's chorus.

Theory and Composition

Applied Music Major	18
Applied Music Minor	6
Composition	6
Ensemble	2
Junior and Senior Recitals ..	—
Large Ensemble*	8
Literature	6
Approved Electives	38

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Music History and Literature

Applied Music Major	16
Applied Music Minor	4
Large Ensemble*	8
Music Research	3
Recital	—
French, German, and Latin ..	18
History	6
Approved Electives	31

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The Department of Music, in cooperation with the School of Education, offers a program that leads to the Bachelor of Music Education degree. The program includes those requirements necessary to qualify for the Collegiate Professional Certificate issued by the State of Virginia. The requirements for the degree may be changed to meet those for certification of other states. State scholarships are available to students who will teach in the State of Virginia. This program is open to qualified high school graduates who rank in the upper half of their graduating classes. An average of "C" is required for continuance after the second year.

Non-Degree Programs

Part-time university students, pre-college, and community students may receive private or class instruction through the Department of Music's Community Music School. Information regarding fee schedules may be obtained through the Coordinator of this unit.

DRAMATIC ART AND SPEECH

KENNETH CAMPBELL, Chairman of the Department

Lawrence F. Bergmann / J. Rodney Busch / James R. Buss
 Maurice L. Erickson / Theodore H. Greene / Marianna Hoad
 Raymond Hodges (Professor Emeritus) / C. Thomas Holloway
 Michael J. Koss / Richard L. Newdick / William L. Prosser / David Weber

Part time—Alice Flowers / Mary Phillips / Roxana Prosser

The Department of Dramatic Art and Speech offers an intensive program designed to provide students with the professional and cultural foundation essential to attaining the highest standards of the theatre arts. Applicants are admitted only upon satisfactory demonstration of ability and genuine interest through audition and interview.

The department offers two Bachelor of Fine Arts degrees. One is in Drama, with emphasis in (1) acting, (2) directing, and (3) design. The other is in Drama Education and leads to teacher certification in drama and speech

* Large ensemble includes chorus, orchestra and band, and women's chorus.

in the public schools of Virginia. At the end of the freshman year, the student is evaluated by the faculty of the department, and those who are retained must declare the area in which they will specialize.

A major activity of the department is the production of plays, and the student is expected to function as a member of a theatrical company, acquiring experience in all phases of theatrical activity. The demands of the program are stringent, and only those students who are willing to commit themselves to the work of the department, who are capable of observing strict professional discipline, and who are in good health, should apply.

Since much of the work of the department is done at night, it is impossible to arrange special schedules or to permit outside employment of any nature without departmental approval. Students are advised to live in residence halls or in the immediate vicinity of the campus.

Degree Requirements for the B.F.A. Degree in Drama

Majors must satisfactorily complete the credits indicated on page 72 and, of that total, the following are required in all areas of concentration.

Introductory Drama Courses: 6 credits, Movement: 6 credits, Speech: 6 credits, Production Crew: 3 credits, English: 6 credits, Art History: 6 credits.

In addition to the above credits, candidates for the B.F.A. degree in Drama must complete the remaining credits for the appropriate program listed below.

Acting Emphasis

Acting	18
Drama	14
Movement	6
Speech	6
Technical	6
Humanities/Literature	
History	30
Electives	12
	—
	92

Design Emphasis

Design/Technical	30
Drama	14
Speech or Movement	6
Humanities/Literature	
History	30
Electives	12
	—
	92

Directing Emphasis

Acting	6
Directing	12
Drama	14
Movement	6
Speech	6

Technical	6
Humanities/Literature	
History	30
Electives	12
	—
	92

Degree Requirements for the B.F.A. Degree in Drama Education

Acting	6	Humanities	6
Drama	18	Mathematics/Science	14
Dramatic Literature	9	Professional Education	22
Speech	12	Social Science	12
Technical	4	Electives	3
English	21		
			<hr/>
			127

COURSES IN THE ARTS

Unless otherwise indicated, courses must be taken in numerical sequence

Arts 101-102 Basic Design Continuous course; 1 lecture hour, 1 seminar hour, and 7 studio hours. 5-5 credits. ● A foundation course providing the basic skills, concepts, and language of two- and three-dimensional design as related to the visual arts. For beginning students in the school. Offered to art majors only.

Arts 103-104 Drawing Fundamentals Continuous course; 1 lecture hour, 1 seminar hour, and 6 studio hours. 4-4 credits. ● A basic course covering free and schematic drawing skills and concepts as a necessary prerequisite to advanced studios in the visual arts. For beginning students in the school. Offered to art majors only.

Arts 105-106 Arts History/Survey Continuous course; 4 lecture hours. 4-4 credits. ● A survey of the visual and related creative arts emphasizing the development and impact of the historical past on contemporary concepts of creative human endeavor. For beginning students in The School of the Arts. Offered to art majors only.

Arts 107-108 Introduction to the Arts Continuous course; 2 lecture hours. 1-1 credit. ● An orientation course designed to provide a comprehensive understanding of the role of the visual arts as a significant contributing factor in the creation of a meaningful human environment. For beginning students in the school.

Arts 309-310 and 409-410 Independent Study Semester courses; 4 or 6 studio hours. 2 or 3, 2 or 3 credits. Prerequisite: Consent of department head and instructor. ● This course will be limited to those few students who have demonstrated an unusual level of ability and an intense commitment to a particular area. The student must be enrolled in a regularly scheduled 300 level studio course.

Arts 420/Arts 520 The Creative Process Semester course; 1 lecture and 2 seminar hours. 3 credits. ● An exploration of the affect and potential of the creative process in relation to contemporary cultural, educative, and social systems. Readings, group research, and discussions.

Arts 430/Arts 530 Guided Study Abroad 3-9 credits. Permission of instructor required. ● Designed to enhance the students' knowledge by providing first hand experience with the most significant contribution of esthetic import within the geographic areas traveled.

COURSES IN ART EDUCATION

Art Education 121-122 Principles of Art Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. • An introduction to two- and three-dimensional art forms with special emphasis on appreciation through participation. Not offered for credit to art majors.

Art Education 301, 302 Art for Elementary Teachers Semester courses; 2 lecture and 2 studio hours. 3, 3 credits. • The nature of art and its function in the lives of individuals and society is considered in addition to materials and methods for guiding the visual expression of children.

Art Education 310 Survey of Art Education Semester course; 2 lecture and 2 studio hours. 3 credits. • Seminar dealing with basic, theoretical, and philosophical approaches to art education with particular attention to child development and curricula design. Students will be offered opportunities to observe actual classroom procedures.

Art Education 401-402 Methods of Art Education Continuous course; 1 seminar hour and 4 studio hours. 3-3 credits. • The philosophy, methods, curriculum, and materials of the school art program are studied in these courses. For art education majors preparing to enter supervised teaching.

Art Education 404 Art Education Seminar Semester course; 1 lecture hour and 2 studio hours. 2 credits. • A seminar concurrent with student teaching which gives the students an opportunity to discuss and evaluate their progress in teaching assignments and other related activities.

Art Education 406 Post-Student Teaching Seminar 3 lecture hours. 3 credits. Prerequisite: Education 447, 448. • Students will evaluate their student teaching experiences with particular emphasis on changes in philosophy and their relation to curriculum development.

Art Education 408 Two-Dimensional Art Experiences Semester course; 1 seminar hour and 4 studio hours. 3 credits. • The course explores the media, techniques, and concepts of drawing, painting and printmaking. Not offered for credit to art majors.

Art Education 409 Three-Dimensional Art Experiences Semester course; 1 seminar hour and 4 studio hours. 3 credits. • Exploration of sculptural concepts with three-dimensional materials such as wood, metal, clay, fibre, plaster, plastic, and glass. Not offered for credit to art majors.

COURSES IN ART HISTORY

Art History 103, 104 Art History, General Semester courses: 3 lecture hours. 3, 3 credits. • First semester: Pre-historic through Gothic. Second semester: Italian Renaissance through modern. Illustrated lectures. Not offered for credit to art majors without consent of adviser.

Art History 301 Ancient Art Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • An intensive survey of Egyptian, Mesopotamian, Greek, Etruscan, and Roman Art.

Art History 302 Medieval Art Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • An intensive survey of Western art and architecture between 300 and 1400 A.D.

Art History 303 Art of the Italian Renaissance Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • The painting, sculpture, and architecture of Renaissance Italy.

Art History 304 Renaissance in Northern Europe Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Painting, architecture, and sculpture during the North European Renaissance.

Art History 305 American Art Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • A general survey of American architecture, painting, sculpture, and the minor arts from the colonial period to the present.

Art History 306 Twentieth Century Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • A survey of 20th century art with emphasis on architecture, painting, and sculpture.

Art History 307, 308 History of the Motion Picture Semester courses; 3 lecture hours. 3, 3 credits. No prerequisite. • The history of development of the motion picture from its early beginnings to the present, with both technical and aesthetic consideration. Appropriate films are shown in addition to lectures. \$10 laboratory fee.

Art History 309 Introduction to Greek and Roman Archeology Semester course; 3 lecture hours. 3 credits. No prerequisite. • A study of the history of archeology in ancient Greece and Rome, modern archeological techniques, and the type of "finds" which are most commonly brought to light in excavations of Greek and Roman sites. An in-depth study of two or three major classical excavations.

Art History 311, 312 History of Apparel Semester courses; 3 lecture hours. 3, 3 credits. No prerequisite. • Illustrated lectures on the history of apparel from primitive times to the present.

Art History 401/Art History 501 Italian Painting of the Renaissance Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Detailed consideration of the great masters of painting from the 13th through the 16th centuries.

Art History 403/Art History 503 Origins of Modern Sculpture Continuous course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Early 20th century sculpture and its evolution from the art of the past.

Art History 404/Art History 504 Contemporary Sculptors Continuous course; 3 lecture hours. 3 credits. Prerequisite: Art History 403. • Later 20th century sculpture and the philosophy of its artists.

Art History 406/Art History 506 Modern Painting Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • An analysis of the major movements in 20th century painting.

Art History 407/Art History 507 The Nineteenth Century Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Study of Western art and architecture between 1770 and 1900.

Art History 408/Art History 508 Baroque and Rococo Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • The art and architecture of Italy and northern Europe between 1600 and 1750.

Art History 409/Art History 509 The Near East Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Iranian, Islamic, Indian art and architecture.

Art History 410/Art History 510 The Far East Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • The art and architecture of China and Japan.

Art History 411/Art History 511 Ancient Art of the Americas Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • A study of the arts of Central and South America with special emphasis on Mexico, Peru, and the Mayan culture.

Art History 412/Art History 512 Primitive Art Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • The study of form and symbolism in pre-literate cultures: American Indian, South Pacific, and African Negro Art.

Art History 413/Art History 513 Islamic Art Semester courses; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Consideration of architecture, sculpture, painting, and minor arts in the Moslem world.

Art History 414/Art History 514 Gothic Art Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Origins and development of the Gothic style with emphasis on the architecture and sculpture of France.

Art History 416/Art History 516 The High Renaissance Semester courses; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • Intensive consideration of the great masters of Italian art in the early 16th century.

Art History 417/Art History 517 Classical Art Semester courses; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • The art and architecture of Greece and Rome.

Art History 419, 420 Museum Methods Semester course; 6 to 12 studio hours. 3 or 6 credits. Prerequisite: Consent of department head. • Field work in cooperation with local or regional museums. Open only to junior

and senior students of high standing. Students entering a museum program must apply several weeks in advance of registration in order to complete preliminary requirements.

Art History 421-422 Aesthetics Continuous course; 3 lecture hours. 3, 3 credits. • Analysis and evaluation of contemporary art criticism (including the film as an art form). John Dewey, Susan Langer, and other critics are considered.

Art History 423/Art History 523 Principles of Exhibition and Presentation Semester course; 1 lecture hour and 2 studio hours. 2 credits. Prerequisites: Arts 101, 102, Arts 103, 104, Arts 105, 106, Arts 107, 108. • A course involving the principles of exhibition and presentation of works of art as they apply to the preparation of an exhibit or portfolio, with emphasis on creative relationships. For advanced undergraduate and graduate students.

Art History 425-426, Art History 525-526 Seminar in Contemporary Painting Continuous course; 3 lecture hours. 3, 3 credits. • An analysis of the ideas and images in painting from abstract expressionism to the present. Offered only to students enrolled in advanced painting courses.

Art History 427/Art History 527 Indian Art Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105-106. • Buddhist, Jain, and Hindu of India.

Art History 428/Art History 528 The Art of Southeast Asia Semester course; 3 lecture hours. 3 credits. Prerequisite: Art History 103, 104 or Arts 105-106. • The art of Burma, Malaya, Thailand, Cambodia, Indochina, and Indonesia.

Art History 430 Architectural History: Richmond Semester course; 3 lecture hours. 3 credits. • History and origins of Richmond area architecture. No prerequisites.

Art History 431-432/Art History 531-532 Seminar in 20th Century Sculpture Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Advanced standing in the department of sculpture. • The history and philosophy of sculpture and of sculptors of the period, involving research correlated with practical projects.

COURSES IN COMMUNICATION ARTS AND DESIGN

Note: All courses below are open only to matriculated communication arts and design majors.

Communication Art 205-206 Visual Communication Techniques Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. • A study of the media used in visual communications and their production processes. Course includes major graphic reproduction processes, audio-visual and instructional techniques.

Communication Art 223-224 Drawing and Color I Continuous course; 1 lecture hour and 6 studio hours. 4-4 credits. • The development of visual

perceptiveness through the exploration of expressive graphic relationships. Space, color, and line are considered through problems of observation and invention.

Communication Art 225-226 Advanced Design I Continuous course; 1 lecture hour and 6 studio hours. 4-4 credits. • Deals with the principles of visual organization and conceptual design.

Communication Art 239 Lettering Semester course; 1 lecture hour and 2 studio hours. 2 credits. • Creative lettering relative to design and visual communication through study of calligraphy, scripts, and variations of traditional forms. Also experimentation and development of new letter forms.

Communication Art 240 Typography Semester course; 1 lecture hour and 2 studio hours. 2 credits. • The visual design with type in relation to photography, printmaking, and other printing processes. Includes identification and specification of type, copy casting, and proofing in the print shop.

Communication Art 331-332 Graphic Illustration Continuous course; 1 lecture hour and 4 studio hours. 3-3 credits. • The development of creative illustration to explore various graphic media pertinent to contemporary trends in advertising and communication art.

Communication Art 335-336 Advanced Design II Continuous course; 2 lecture hours and 8 studio hours. 6-6 credits. Prerequisite: Communication Art 225-226. • Team taught course—exploration of various areas of contemporary communications, including advertising; corporate design; lettering and typography; editorial design; TV design; and instructional communication.

Communication Art 337-338 Drawing and Color II Continuous course; 1 lecture hour and 4 studio hours. 3-3 credits. • A continuation of Communication Art 223-224 with emphasis upon the student personal approach.

Communication Art 411 Communication Arts Semester course; 1 lecture hour. 1 credit. • Designed as a combined seminar and lecture covering the history and current developments in the communication arts and design field. Visiting lecturers from the field will participate during the semester.

Communication Art 431-432 Graphic Illustration Continuous course; 2 lecture hours and 8 studio hours. 6-6 credits. Prerequisite: Communication Arts 335-336. • Illustration projects are assigned on a class and individual basis by the instructor.

Communication Art 433-434 Senior Project Continuous course; 1 lecture hour and 4 studio hours. 3-3 credits. • A workshop in printing, typography, and graphics.

Communication Art 435-436 Advanced Design III Continuous course; 2 lecture hours and 8 studio hours. 6-6 credits. Prerequisite: Communication Art 335-336. • Communication art and graphic design problems assigned on an individual and class basis by instructor.

Communication Art 447-448 Communication Film and TV Workshop Continuous course; 1 lecture and 4 studio hours. 3-3 credits. • Designed to introduce students to the directing and making of communication art and design, communication films, and television productions. Students will work in teams assisted by faculty. This course is in conjunction with Communication Art 435-436.

COURSES IN CRAFTS

Crafts 201-202 Metalsmithing Continuous course; 2 lecture hours, 2 studio hours. 3-3 credits. • A course structured on specific instruction in metal forming processes applicable to the functional object including casting, joinery, and surface enrichment. Personal investigation as well as research in contemporary and historical metal forms are encouraged.

Crafts 211-212 Jewelry Continuous course; 2 lecture hours, 2 studio hours. 3-3 credits. • An exploration of the methods, materials, and development of jewelmaking, including casting, lapidary, enamels, etc. Individual experimentation is encouraged.

Crafts 220 Woodworking for Therapists Semester course; 2 lecture hours, 2 studio hours. 3 credits. • A basic course for therapists covering hand and machine tool processes.

Crafts 221-222 Woodworking and Furniture Design Continuous course; 2 lecture hours, 2 studio hours. 3-3 credits. • Fundamental techniques in fabrication of furniture involving basic joinery construction and design and mechanical drawing.

Crafts 241-242 Beginning Ceramics Continuous course; 2 lecture hours, 2 studio hours. 3-3 credits. • Basic problems in the history, design, technology and production of ceramic ware.

Crafts 255 Ceramics for Therapists Semester course; 1 lecture hour, 2 studio hours. 2 credits. • Basic skills and techniques for therapists.

Crafts 261-262 Beginning Textiles Continuous course, 2 lecture hours, 2 studio hours. 3-3 credits. • Basic course involving both loom and non-loom techniques with discussions of the tools, materials, heritage, and modern application of each craft covered.

Crafts 301-302/Crafts 401-402 Advanced Metal or Jewelry Semester courses; 3, 6, or 9 credits per semester. Hours to be arranged. Prerequisites: Crafts 201-202 or Crafts 211-212. • This course offers opportunity for specialization and development of techniques.

Crafts 321-322/Crafts 421-422 Advanced Furniture Design Semester courses; 3, 6, or 9 credits per semester. Hours to be arranged. Prerequisite: Crafts 221-222. • Advanced design and construction, investigation of varied materials, and machine processes.

Crafts 341-342/Crafts 441-442 Advanced Ceramics Semester courses; 3, 6, or 9 credits per semester. Hours to be arranged. Prerequisite: Crafts 241-242. • Advanced problems in the design and production of functional and non-functional ceramic products.

Crafts 361-362/Crafts 461-462 Advanced Textiles Semester courses; 3, 6, or 9 credits per semester. Hours to be arranged. Prerequisites: Crafts 261-262. • Advanced work in contemporary and traditional weaving techniques.

Crafts 363 Weaving for Therapists Semester course; 2 lecture hours, 2 studio hours. 3-3 credits. • For therapy majors, includes warping, dressing the loom, and various weaving techniques on foot power, table, and hand built loom.

Crafts 385-386/Crafts 485-486 Educational and Recreational Crafts Semester courses; 6 studio hours. 3 credits per semester. • An experimental concentration in the minor crafts.

Crafts 387-388/Crafts 487-488 Experimental Materials and Techniques Semester courses; 2 lecture hours, 2 studio hours. 3, 3 credits per semester. • Experimentation and research into new materials and techniques. Permission of instructor required.

Crafts 491-492 Fieldwork Semester courses; 15 hours per week for 16 weeks. 6-6 credits. Prerequisite: Consent of department head. • Senior students are assigned on an individual basis. Fieldwork supervisor will arrange student's work and evaluate his performance.

COURSES IN DRAMATIC ART AND SPEECH

Drama 101-102 Speech for the Stage I Continuous course; 3 lecture hours. 3-3 credits. • Drills in pronunciation, enunciation, and voice placement for performing.

Drama 105-106 Movement for the Stage I Continuous course; 3 lecture hours. 3-3 credits. • A practicum in elementary movement involving gymnastics and basic dance.

Drama 111 Introduction to Theatre Semester course; 3 lecture hours. 3 credits. • Survey of the basic elements and theories of theatrical production; directing and design with special consideration of theatre as an artistic experience.

Drama 112 Introduction to Drama Semester course; 3 lecture hours. 3 credits. • Analysis and critical examination of contemporary plays for methods of interpretation and production qualities.

Drama 113 Performing Semester course; 3 lecture hours. 3 credits. • An exploration of the general process of performing involving theatre games, role playing, and improvisation.

Drama 114 Performing Environment Semester course; 3 lecture hours. 3 credits. • An exploration of the various scenic environments and conditions for performing.

Drama 123-124 Production Crew Continuous course; 1-3 credits. • Production work in one or more of the following areas: set construction, costume construction, lighting, properties, house management and publicity, sound.

Drama 201-202 Speech for the Stage II Continuous course; 3 lecture hours. 3-3 credits. • Advanced study and practice in the use of the voice to include dialects, verse drama, and choral speaking.

Drama 203-204 History of the Theatre Semester courses; 3 lecture hours. 3-3 credits. • A survey course beginning with the Greek theatre and studying the major developments of the play, the actor, and the acting area, ending with Ibsen.

Drama 205-206 Movement for the Stage II Continuous course; 3 lecture hours. 3-3 credits. • A practicum in dance, period movement, stage combat, and circus games.

Drama 213-214 Acting Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Drama 113-114. • A study of the emotional basis of acting and of the body as the expressive agent.

Drama 221-222 Basic Scene Design Continuous course; 3 lecture hours. 3-3 credits. • A study of the basic techniques used in designing space for theatre productions.

Drama 223-224 Practicum in Theatre Technology Continuous course; 3 credits. • Advanced problem solving in one or more areas of technical theatre.

Drama 225-226 Basic Stage Electronics Continuous course; 3 lecture hours. 3 credits. • A study of the basic techniques utilized to light space and create and use sound for theatre productions.

Drama 227-228 Basic Stage Costuming and Makeup Continuous course; 3 lecture hours. 3 credits. • A study of the techniques used to dress the performer.

Drama 251, 252/Drama 351, 352/Drama 451, 452 Rehearsal and Performance Semester courses; arranged. 1 to 3 credits. • Work in acting and production in a major production and one-act theatre. Each student is expected to devote a minimum of 50 hours per credit per semester to receive credit.

Drama 305-306 Scene Design Continuous course; 1 lecture hour and 4 laboratory hours. 3-3 credits. Prerequisite: Drama 221-222. • A study of the techniques and methods of scenic design and scene painting, with practical application in major productions and one-act theatre.

Drama 313-314 Actor's Studio Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: permission of instructor. • A laboratory for the serious students of acting in which the participants will prepare and polish various longer scenes for presentation and criticism.

Drama 319-320 Play Production Continuous course; 3 lecture hours. 3-3 credits. • Principles of theatre art, including scenic and costume design, technical theatre, and direction. This course is for drama education majors.

Drama 330, 331/Drama 430,431 Production Continuous course; 5 credits. • The design, rehearsal, and performance of dramatic works.

Drama 335, 336/Drama 435, 436 Colloquium and Practical Training Continuous course; 5 credits. • Literary, historical, and theoretical studies together with specialized voice and movement training related to dramatic works in production.

Drama 340, 341/Drama 440, 441 Theatre Projects Continuous course; 5 credits. • Individual or group problem solving through performance projects in an area of dramatic literature or experience related to works under production in Drama 330, 331/Drama 430, 431.

Drama 361-362 Directing Continuous course; 3 lecture hours. 3-3 credits. • Lectures and discussions on the theories of stage direction; problems involved in the production of period plays and a study of modern theories; actual practice under supervision in directing one-act plays for public presentation.

Drama 403, 404 History of Dramatic Literature Semester courses; 3 lecture hours. 3-3 credits. • Study and analysis of dramatic literature. First semester Aeschylus through Shakespeare. Second semester: Corneille to Ibsen.

Drama 405-406 Advanced Scene Design Continuous course; 1 lecture hour and 4 laboratory hours. 3-3 credits. Prerequisite: Drama 305-306. • A more advanced study of the techniques, methods, and problems of scene design and scene painting. Designed for student who plans to attend graduate school or enter the profession.

Drama 409-410 Costumes for the Theatre Continuous course; 3 lecture hours. 3-3 credits. • A seminar in research and design of costumes for the theatre, including discussion of fabrics and special construction methods used in stage costuming. Special project in construction will be assigned as part of the work for the course.

Drama 413, 414 Acting Styles Semester course; 3 lecture hours. 3-3 credits. Prerequisite: permission of instructor. • A study of the history and theory of acting styles from the Greeks to the present. Designed for students who wish to enter the acting profession or to attend graduate school.

Drama 420 Senior Seminar Both semesters; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. • Research and/or creative project in the drama major's area of special interest pursuant to graduate study or professional work in the student's chosen field.

Drama 423, 424 Modern Drama Semester courses; 3 lecture hours. 3-3 credits. • First semester includes intensive study of major continental playwrights. Second semester concentrates on American dramatists with Pulitzer Prize and Drama Critics Circle selections as the core.

Drama 425 Theatre Administration Semester course; 3 lecture hours. 3 credits. • The business aspects of successful theatre operation—college, commercial, community, regional—from basic purchasing methods to publicity and "house" operation for the finished product.

Drama 426-427 Playwriting Continuous course; 3 lecture hours. 3 credits.
● A practical introduction to the creation of original play scripts for theatre, television, and motion pictures. Readings and studio performances of works in progress and completed scripts.

Drama 461, 462 Advanced Directing Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: Drama 361-362. ● Further study in direction techniques, especially the problems of the full-length play. The student will direct a cutting of a full-length play.

COURSES IN SPEECH

Speech 104 Introduction to Rhetoric and Communication Theory 3 lecture hours. 3 credits. ● A course designed to replace the second semester of voice and diction as required subject for drama and speech education majors. It will be open only to education majors in the department of dramatic art and speech or other areas of education. The main thrust of the course will be the study of rhetoric and communication theory with performance as a secondary consideration.

Speech 121 Effective Speech Both semesters; 3 lecture hours. 3 credits.
● Practice in organization and delivery of various types of speeches. Learning how to think clearly and to speak effectively before an audience.

Speech 301 Beginning Oral Interpretation 3 lecture hours. 3 credits ● The basic techniques of oral interpretation will be introduced. Performance will include the reading of prose, poetry, and dramatic literature. Written permission of the instructor must be obtained by any student outside the department who wishes to take the course.

Speech 408/Speech 508 Speech for Teachers Both semesters; 3 lecture hours. 3 credits. ● The aim of this course is to make the prospective teacher aware of his own speech and the speech practices of his pupils. Proper voice placement to avoid needless fatigue and good pronunciation as well as problems of oral communication are stressed.

Speech 401, 402 Oral Interpretation Semester courses; 3 lecture hours. 3, 3 credits. ● Principles and practice in analysis and reading of sections from prose, poetry, and drama.

Speech 403 Persuasion Semester course; 3 lecture hours. 3 credits. Prerequisite: Speech 104, Speech 121, or permission of instructor. ● Theories of persuasion. Motivation, audience analysis, and the message and its presentation will be stressed, with performance serving as the practical application of the theories studied.

Speech 406 Forensics' Techniques Semester course; 3 lecture hours. 3 credits. ● This course will present an overview of the forensics program in the secondary schools of Virginia, with an emphasis on debate, oral interpretation, and oratory. It will deal primarily with the coaching of the extracurricular contest activities in the speech area.

Speech/Drama 407, 507 Speech and Drama Methods Semester course; 3 lecture hours. 3 credits. ● A study of the basic methods used in the teaching of drama and speech in the secondary school.

COURSES IN FASHION DESIGN

Fashion Design 201-202 Clothing Construction Continuous course; 4 studio hours. 2-2 credits. • Introducing the principles involved in garment construction with emphasis on professional design-room practices as to sewing, pressing, and finishing of garments.

Fashion Design 203-204 Apparel Design I Continuous course; 2 studio hours. 1-1 credits. • Emphasizing fashion fundamentals as to lines, colors, texture, etc.; enhancing figure assets and nullifying faults. The cultivation of style sense and the acquisition of elegance and individuality. Also a study of outstanding designers.

Fashion Design 205-206 Pattern Drafting Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. • Fundamental principles of pattern-making, developing various styles from the master pattern, creating original designs to be constructed in muslin.

Fashion Design 207-208 Fashion Illustration Continuous course; 2 studio hours. 1-1 credits. • Introducing drawing of the fashion-figure and apparel, sketching in pencil, using water color efficiently, and developing skill in quick fashion sketching.

Fashion Design 301-302 Draping and Design I Continuous course; 1 lecture hour and 8 studio hours. 5-5 credits. • Introducing first the fundamentals of draping in the muslin on the dress form, then developing designs from sketches, and finally creating original designs.

Fashion Design 303-304 Apparel Design II Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. Prerequisite: Fashion Design 203-204. • Exposing students to many sources for design inspiration: costume research, trips to museums, nature, music, and different countries help to stimulate the student to create effective designs.

Fashion Design 305 Pattern Development for Production Semester course; 1 lecture hour and 8 studio hours. 5 credits. Prerequisites: Fashion Design 201-202 and Fashion Design 205-206. • Introducing methods of developing and grading standard size patterns as used in mass production and instructing layout, cutting, and construction of garments as demanded in the volume industry.

Fashion Design 306 Advanced Drafting Techniques Semester course; 1 lecture hour and 8 studio hours. 5 credits. Prerequisites: Fashion Design 201-202, Fashion Design 205-206, and Fashion Design 305. • The emphasis is on creativity and pattern development for high fashion custom designing from the original sketch to the finished garment.

Fashion Design 307-308 Design in Millinery I Continuous course; 6 studio hours. 3-3 credits. • Students are exposed to fundamental techniques in millinery construction by manipulating various media. Originality, suitability, and proficiency are stressed to meet professional standards.

Fashion Design 309-310 Flat Pattern Design Workshop Continuous course; 1 lecture hour, 2 studio hours. 2-2 credits. • This course offers opportunities

to use a basic pattern in developing original ideas. The emphasis is on designing, drafting patterns, and fitting usable muslin patterns for construction. Not open to fashion design majors. Offered evenings only.

Fashion Design 311-312 Advanced Dressmaking Techniques Semester course; 1 lecture hour and 2 studio hours. 2, 2 credits. • The emphasis is on teaching professional methods and designer techniques in the construction of garments. Commercial or original designs may be used. Not open to fashion design majors. Offered evenings only.

Fashion Design 401-402 Design Studio Continuous course; 2 lecture hours and 10 studio hours. 7-7 credits. Prerequisites: Fashion Design 301-302 and 303-304. • Assignments on an individual basis; encouraging original designing, conceiving ideas through any medium or research, preparing designer collections in portfolio form, and in research presentations. The second semester is devoted entirely to the annual fashion show preparations.

Fashion Design 405-406 Design in Tailoring Continuous course; 1 lecture hour and 8 studio hours. 5-5 credits. Prerequisite: Fashion Design 305-306. • Stressing pleasing coordination between the design, fabric, and model selected for the coat or suit. Emphasis is on custom-tailoring technique as required in high fashion establishments. The second semester is devoted entirely to the annual fashion show preparations.

Fashion Design 407 Design in Millinery II Semester course; 6 studio hours. 3 credits. Prerequisite: Fashion Design 307-308. • Emphasis is on individual design development through free form media combined with professional craftsmanship.

Fashion Design 410 Fashion Presentation Techniques Semester course; 1 lecture hour and 4 studio hours. 3 credits. • Students are exposed to fashion show planning. This includes organization, presentation, and commentary. Attention is given to technical aspects, physical needs, and publicity.

COURSES IN INTERIOR DESIGN

Interior Design 103, 104 Introductory Studio Course Semester courses; 1 lecture hour and 2 laboratory hours. 2, 2 credits. • A practical course in which the student becomes familiar with fundamentals of interior design through work with floor plans, furniture selection and arrangement, floor and wall composition, color harmony, wall paper, and other aspects of design. Not open to interior design majors. Offered in evening only.

Interior Design 201-202 Beginning Interior Design Studio Continuous course; 2 lecture hours, 4 studio hours. 4-4 credits. • The elements of design, color theory, and major considerations in the selection and placement of furnishings are taught and developed through a series of varied problems. The student then makes use of this information in designing and furnishing complete interiors.

Interior Design 203-204 Introduction to Architecture Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. • Architectural theory, structural analysis, blueprint reading, and drawing.

Interior Design 211-212 Introduction to Interior Design Semester courses; 3 lecture hours. 3-3 credits. • An analysis of the fundamentals of interior design through the study of furniture selection and arrangement, color, composition, textiles, accessories, and other interior components.

Interior Design 217-218 Great Houses and Monuments: Europe and America Continuous course; 3 lecture hours. 3-3 credits. • Profusely illustrated lectures for those interested in historical architecture and furnishings. Also valuable for persons anticipating European travel. Not open to interior design majors. Offered in evening only.

Interior Design 221-222 Interior Design Graphics Continuous course; 1 lecture hour and 4 studio hours. 3-3 credits. • Introduction to the various presentation media and techniques to provide basic communication skills such as drafting, rendering, perspective drawing, layout organization, and model making for professional graphic presentations.

Interior Design 301-302 Environmental Factors Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. • Acoustical, illumination, and atmospheric control environmental support systems are discussed, and the principles applied to interior situations.

Interior Design 311-312 Commercial Design Continuous course; 2 lecture hours and 10 studio hours. 7-7 credits. • Practical application of design work with emphasis on manufacturers in the field of contract design. The students plan complete layouts of commercial interiors for professional presentation.

Interior Design 321-322 History of Interior Design and Architecture Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Art History 103, 104 or Arts 105, 106. • A survey of the great styles of interior design and decoration dating from Ancient Greece. Emphasis is given to the styles in Italy, France, England, and America from the Renaissance to the present.

Interior Design 331-332 Business Procedures Continuous course; 3 lecture hours. 3-3 credits. • Study of interior design business practices and work-room procedures.

Interior Design 401-402 Advanced Interior Design Continuous course; 2 lecture and 6 studio hours. 5-5 credits. • Problems exploring period and contemporary design and their relationships are planned to meet the needs of specific clients. In keeping with the endeavor to prepare the students for the professional world, the problems are as varied as possible.

Interior Design 411-412 Trade Sources Continuous course; 2 lecture hours. 2-2 credits. • Comparative analysis of the major sources of supply and their products. When convenient, manufacturers' representatives will meet with the class.

Interior Design 421-422 Furniture Design and Construction Continuous course; 1 lecture hour and 4 studio hours. 3-3 credits. • Original student furniture designs are developed through a coordinated study of structure and materials.

Interior Design 441 Survey of Modern Architecture Semester course; 3 lecture hours. 3 credits. • General survey of the field of architecture. An analysis of the works of architects from the nineteenth and twentieth centuries. Offered in evening only.

COURSES IN MUSIC

Applied Music 101-102 / 201-202 / 301-302 / 401-402 Applied Music Major 1 lecture hour. 3 credits. (Eight semesters required on instrument.) Three hours' practice time per day required. Section: (1) piano, (2) voice, (3) organ, (4) percussion, (5) flute, (6) oboe, (7) clarinet, (8) saxophone, (9) bassoon, (10) guitar, (11) trumpet, (12) trombone, (13) baritone, (14) french horn, (15) tuba, (16) violin, (17) viola, (18) violoncello, (19) double bass.

Applied Music 151-152 / 251-252 / 351-352 / 451-452 Ensembles 2-3 laboratory hours. 1, 1 credit. Sections: (May be repeated under different section.) (1) orchestra, (2) band, (3) wind symphony, (4) chorus, (5) women's chorus, (6) vocal ensemble, (7) string ensemble, (8) woodwind ensemble, (9) piano ensemble, (10) brass ensemble, (11) percussion ensemble, (12) Collegium Musicum, (13) Chamber orchestra, (14) stage band, (15) opera workshop, (16) accompanying.

Applied Music 171-172 / 271-272 / 371-372 / 471-472 Class Lessons Semester courses; 2 laboratory hours. 1 credit. One hour practice per day required. Sections: (1) piano, (2) strings, (3) voice, (4) brass, (5) single reed, (6) double reed, (7) percussion, (8) organ.

Applied Music 313, 314 Performance Practice Semester courses; 2 lecture and 2 laboratory hours. 3, 3 credits. • A study of performance practices of ornamentation and interpretation of music literature. The first semester treats music from the 16th and 17th centuries. The second semester treats that of the 17th and 18th centuries.

Applied Music 381-382 Conducting Year course; 1 lecture hour and 2 laboratory hours. 2-2 credits. • The student will put in practice his elementary knowledge of conducting to solve complicated or unusual musical situations such as those of irregular meters, conducting from the keyboard, and uncommon scoring.

Applied Music 394 Junior Recital No credit. • At least one half of a recital to be presented publicly and/or project and/or thesis.

Applied Music 413, 414 Performance Practice Semester courses; 2 lecture and 2 laboratory hours. 3, 3 credits. • A study of performance practices of ornamentation and interpretation of music literature. The first semester treats music from the 18th and 19th centuries. The second semester covers that of the 19th and 20th centuries.

Applied Music 473-474 Improvization Continuous course; 4 laboratory hours. 2-2 credits. • A course in which, through analysis, the student will acquire a knowledge of basic materials which will provide a foundation for improvising or extemporization.

Applied Music 494 Senior Recital No credit. • A complete recital must be presented publicly and/ or project and/or thesis.

Church Music 331 Church Music I Semester course; 2 lecture hours. 2 credits. • The organization of multi-choir programs in the church; junior choir methods and materials; handbell choirs.

Church Music 332 Organ Practicum Semester course; 2 lecture hours. 2 credits. • The development of skills necessary for church service playing: transcription of piano and orchestral scores; accompanying and hymn playing; conducting from the console; the performance of chant.

Church Music 333 Organ Design Semester course; 2 lecture hours. 2 credits. • A study of the design and construction of the organ with emphasis on the styles developed by master builders of various eras.

Church Music 431 Hymnology Semester course; 2 lecture hours. 2 credits. • A study of hymns and hymn tunes with emphasis on their development, style, and functions.

Church Music 432 Church Music II Semester course; 2 lecture hours. 2 credits. • A survey of adult choir literature including anthems, cantatas, oratorios, and service music.

Church Music 435 Liturgics Semester course; 2 lecture hours. 2 credits. • A study of the forms of public worship emphasizing the orders in current usage. The planning of weekly and special services.

Church Music 437-438 Field Work in Church Music Continuous course. 2-2 credits. Prerequisite: a position in a church is required for this course. • Actual experience in playing for services and/or conducting a church choir as a steady, regular job, supervised by the instructor.

Music Composition 201 Melody Writing Semester course; 3 lecture hours. 3 credits. • A study of the design of melodies: the construction of motives, their combination, manipulation, and expansion into larger units; of the setting of words to music; and of various techniques of melodic transformation and metamorphosis.

Music Composition 202 Contrapuntal Techniques Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Composition 201. • A study of all devices and methods used to combine two or more simultaneous melodies. Structures such as rounds, canons, and fugues will be studied and problems of invertible counterpoint introduced.

Music Composition 301 Composition in Small Forms Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Composition 201. • The expansion of a brief musical statement into a larger structure with related sections. Compositions such as motets, one-, two-, and three-part song forms will be created.

Music Composition 302 Composition in Large Forms Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Composition 301. • The composition of works in larger forms involving the development of a musical idea and its integration with others.

Music Composition 311, 312 Counterpoint Semester courses; 3 lecture hours. 3, 3 credits. • Counterpoint in two, three, and four parts.

Music Composition 401, 402 Free Composition Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: Music Composition 302. • The composition of music in form and scope according to the needs and preferences of the student.

Music Composition 403 Composition for the Theater Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Composition 301. • Composition involving the special problems posed by the demands of opera, musical shows, ballet, or other music which is allied with drama or dance.

Music Composition 404 Composition for Modern Popular Media Semester course; 3 lecture hours. 3 credits. • Composition for various facets of popular commercial music.

Music Education 003, 004, 005, 006 Observation Semester courses; 1 laboratory hour. No credit. Required for all sophomore and junior Music Education majors. • A minimum of one hour observation per week each semester with an assigned music teacher working at the elementary, junior, or senior high school level (vocal and/or instrumental).

Music Education 175-176 Beginning Strings Year course; 2 laboratory hours. 1-1 credit. Required of all music students. • The beginning course in a four-semester study of a string instrument selected by the students (violin, viola, cello or bass). Not open to string majors.

Music Education 177, 178 Instrumental Techniques Semester courses; 2 laboratory hours. 1, 1, credit. • First semester: emphasis is placed upon acquiring specific skill in playing the violin, viola, cello, and/or string bass. Second semester: study of clarinet, flute, oboe, and bassoon.

Music Education 180 Beginning Guitar Semester course; 2 laboratory hours. 1 credit. • A class for adults who wish to learn the basic fundamentals essential for playing the guitar. The course will cover techniques involved in a broad general style of performance including chording, single-string technique, plectrum, and finger style.

Music Education 275-276 Intermediate Strings Year course; 2 laboratory hours. 1-1 credit. Prerequisite: Music Education 175-176 or equivalent. • Required of all music majors. Emphasis upon the development of advanced technique and skill in performance of string literature. Not open to string majors.

Music Education 277, 278 Instrumental Techniques Semester courses; 2 laboratory hours. 1, 1 credit. • First semester: emphasis is placed upon acquiring specific skill in playing percussion instruments; second semester: cornet, French horn, trombone, and/or bass horn.

Music Education 280 Intermediate Guitar Semester course; 2 laboratory hours. 1 credit. Prerequisite: Music Education 180 or equivalent. • A class for adults desiring advanced study on the technique of playing the guitar.

Music Education 377, 378 Advanced Instrumental Techniques Semester courses; 2 laboratory hours. 1, 1 credit. • First semester: wind instruments. Second semester: string instruments. The development of additional skill through ensemble performance. Emphasis upon rehearsal techniques and score reading.

Music Education 471 Methods and Materials (Elementary) Semester course; 3 lecture hours. 3 credits. • Curriculum, materials, and procedures for music instruction in the elementary and intermediate grades; supervision as related to the specialist teacher.

Music Education 472 Methods and Materials (Secondary) Semester course; 3 lecture hours. 3 credits. • Curriculum, materials, and procedures as they apply to the development of the music program in the secondary schools. Problems of music administration, scheduling, staff, equipment, finances, and public relations.

Music Education 476 School Music Administration and Supervision Semester course; 2 lecture hours. 2 credits. • A study of problems related to the organization and administration of a comprehensive music program in the public schools.

Music Education 479 Music Instrument Repair Semester course; 2 laboratory hours. 1 credit. Prerequisite: Music Education 177, 178, 277, 278. • A study of problems related to intonation and tone quality in band and orchestra instruments; the relationship of mouthpieces and reeds to intonation, emphasis on acquiring knowledge and skill in the care and repair of music instruments.

Music Education 485 Music for Elementary Teachers Semester course; 3 lecture hours. 3 credits. • Development of understanding and knowledge of theory through sight singing, ear training, rhythmic, and creative experience. Basic skills in piano keyboard and in voice production will be emphasized.

Music Education 486 Music Literature for Children Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Education 485 or equivalent. • Designed for elementary classroom teachers. Instructional materials, music literature, and teaching aids in vocal music for use with children in the elementary school.

Music Education 487 Rhythms for Elementary-Aged Children Semester course; 3 lecture hours. 3 credits. • Significant contributions of rhythmic activity to the social, physical, emotional, intellectual, and musical growth of children. Fundamental rhythms, singing songs and games, traditional folk and national dances, creative movement, and the use of practical classroom materials in music education will be presented.

Music Education 488 Music Education Seminar Semester course; 2 lecture hours. 2 credits. • Independent investigation of problems in music education.

Music History 243, 244 Appreciation of Music Semester courses; 3 lecture hours. 3, 3 credits. • Designed to encourage intelligent listening and understanding of finer music from all periods. Not open to music majors.

Music History 443-444 Music Research Continuous course; 3 lecture hours. 3-3 credits. • Assigned research in aspects of the history of music that are not covered in other courses.

Music History 401, 402, 403, 404 Senior Seminar in Music History Semester courses; 2 lecture hours. 2, 2, 2, 2 credits. • A course of advanced and in-depth study of selected areas of music history and literature. Class discussion will be based upon intensive background reading and detailed analysis of the materials used.

Music Theory 121-122 / 221-222 / 321-322 Literature and Structure of Music Continuous courses; 3 lecture and 6 laboratory hours. 6-6 credits. • A six-semester sequence during which the fundamental precepts of music history, music theory, aesthetics, basic musicianship, and other pertinent elements of the art of Western music are studied. The basis of the study is artistic work from the past and present which embodies characteristics representative of any given historical or technical level; the procedure of the study is deductive—lectures and readings of background materials lead to analysis and performance together with discussions of specific works from which can be inferred the fundamental elements of a particular style. These are then used as guides for creative composition by each student.

Music Theory 201 Acoustics Semester course; 3 lecture hours. 3 credits. • A study of the physical properties of sound and their employment in creating music.

Music Theory 205 Calligraphy Semester course; 2 laboratory hours. 1 credit. • Techniques of writing music manuscript; score and parts layout.

Music Theory 301 Principles of Counterpoint I 900-1650 A.D. Semester course; 3 lecture hours. 3 credits. • An analytical study of music and music writings from the early years of Western polyphony.

Music Theory 302 Principles of Counterpoint II 1650-Present Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Theory 301. • A study of music and writings concerning more recent polyphonic styles.

Music Theory 303 Instrumental Arranging Semester course; 3 lecture hours. 3 credits. • Adapting and scoring music for various instrumental ensembles.

Music Theory 304 Choral Arranging Semester course; 3 lecture hours. 3 credits. • Adapting and scoring music for various vocal ensembles.

Music Theory 401 Homophonic Harmony I 1450-1750 A.D. Semester course; 3 lecture hours. 3 credits. • An analytical study of music and music writings from early years of Western homophony. Special emphasis placed on figured-bass techniques.

Music Theory 402 Homophonic Harmony II 1750-Present Semester course; 3 lecture hours. 3 credits. Prerequisite: Music Theory 401. • A study of music and writings concerning more recent homophonic styles.

Music Theory 403 Serial Techniques Semester course; 3 lecture hours. 3 credits. • Serial writing from the iso-rhythmic motet through the post-Webern 12-tone styles.

Music Theory 404 Non-Serial Techniques of the 20th Century Semester course; 3 lecture hours. 3 credits. • A study of the various non-serial devices used in constructing modern music.

Music Theory 405 Theory of Modern Popular Music Semester course; 3 lecture hours. 3 credits. • A study of popular American music during the 20th century, with special emphasis on improvisatory techniques.

Music Theory 406 Arranging for Mixed Media Semester course; 3 lecture hours. 3 credits. • Problems of scoring for unbalanced and mixed groups of voices and instruments.

Music Theory 407 Arranging Modern Popular Music Semester course; 3 lecture hours. 3 credits. • Adapting and scoring music for ensembles incorporating popular commercial performance styles.

Music 105-106 / 205-206 / 305-306 / 405-406 Applied Music 1, 1 credit. • Offered each semester for four years. One one-half hour lesson per week; one credit each semester. Band instruments, keyboard instruments, orchestral instruments and voice when used as a minor under any of the degrees. For those who go beyond four years and are not registered as graduate students, the numbers will have a letter suffix.

Music 173-174 Class Piano Semester courses; 1 laboratory hour. 1, 1 credit. • A course in basic skills for the beginner. Exercises to equalize the five fingers and develop tactile sense on the keys, reading in treble and bass clefs. May be repeated for credit with the permission of the student's adviser and the instructor of the course.

Music 203 Sight Reading Semester course; 1 lecture hour. 1 credit. • A practical course for singers and instrumentalists designed to develop facility in sight reading.

Music 204 Accompanying Semester course; 1 lecture hour. 1 credit. • A practical training in the art of accompanying vocal and instrumental music for advanced piano students. Students prepare classical and modern repertoire in cooperation with voice and instrumental students.

Music 273-274 Keyboard Harmony Year course; 2 laboratory hours. 1 credit. Prerequisite: Music 121 and 122. • The application of basic harmony in exercises that are performed instead of written. Includes harmonization of melodies, realization of figured basses and the playing of cadence formulae.

Music 303-304 Piano Literature Year course; 2 lecture hours. 2-2 credits. • A survey of stringed keyboard literature. Historical, formal, and stylistic considerations of the various periods and composers of keyboard music. Listening and reading assignments included.

Music 311-312 Counterpoint Year course; 3 lecture hours. 6 credits. • Counterpoint in two, three, and four parts. Invention and fugue-writing.

Music 313-314 Advanced Ear Training and Sight Singing Year course; 2 laboratory hours. 2 credits. • Advanced Solfege: preparation and sight reading original works of the 20th century composers. Admittance by audition only.

Music 334 Organ Literature Semester course; 2 lecture hours. 2 credits. • A survey of organ music.

Music 341-342 History of Music I Continuous course; 3 lecture hours. 3-3 credits. • A study of the development of music from ancient times through the Baroque period.

Music 367-368 Opera Workshop Semester courses; 2 lecture hours. 2, 2 credits. • The production and performance of full operas, scenes, or acts.

Music 373, 374 Advanced Keyboard Skills Semester course. 1, 1 credit. • Designed to develop abilities in modulation, transposition, open-score reading, and improvisation.

Music 411-412 Composition Year course; 2 lecture hours. 4 credits. Prerequisite: two years of theory, one of harmonic analysis. • Actual writing of music beginning with the phrase and advancing to two-part and three-part song forms and the sonations.

Music 421-422 Form and Analysis Year course; 2 lecture hours. 4 credits. Prerequisite: at least two years of theory. • A thorough study of the formal and harmonic structures of music, from the Bach Chorale to 20th century practices.

Music 423-424 Orchestration Continuous course; 2 lecture hours. 2-2 credits. Prerequisite: two years of theory. • First semester: practice in writing for small combinations, including chorus; second semester: writing for full orchestra.

Music 441-442 Music History II Year course; 3 lecture hours. 3-3 credits. • A study of the development of music from the 18th century to the present.

Music 445/545 Music of the Middle Ages 2 lecture hours. 2 credits. • Principal musical developments from the first through the fifteenth centuries; Gregorian Chant, the rise of secular monophony, the development of polyphony—its forms and styles.

Music 446/546 Music of the Renaissance 2 lecture hours. 2 credits. • Principal musical developments from the late fifteenth through the sixteenth centuries; sacred and secular homophonic and polyphonic forms and styles; the development of instrumental ideas and forms; the spread of music into cultured society.

Music 447/547 Music of the Baroque 2 lecture hours. 2 credits. • Principal and musical developments from ca. 1590-1750: accompanied monody and the beginning of opera; sacred and secular instrumental and vocal forms and styles; J. S. Bach and the culmination of an era.

Music 448/548 Music of the Pre-Classic and Classic Eras. 2 lecture hours. 2 credits. • Major developments in sacred and secular forms and styles ca. 1730-1828: social and artistic influences on music; dominance of instrumental music; Beethoven and the German symphony.

Music 449/549 Music of the Romantic Era 2 lecture hours. 2 credits. • Influence of the Romantic Era on conceptions of music forms and styles; the development of the art song; the growth of opera; the expoditation of instruments and of tonality.

Music 450/550 Modern Music 2 lecture hours. 2 credits. • Impressionistic expressionistic, neo-classic, and neo-romantic influences and styles in music. Development of new sound-generating techniques and methods for ordering the new tonal material.

Music 460/560 American Music 2 lecture hours. 2 credits. • The growth and development of music in the United States from 1607 to the present. While the chief concentration will be upon art music and church music, folk music, jazz, and other forms of popular expression will be included.

Music 463-464 Vocal Pedagogy Year course; 2 lecture hours. 2-2 credits. • A study of physiological and psychological problems found in voice-teaching.

Music 465 Song Repertoire Semester course; 1 lecture hour. 1 credit. • A survey of the song literature of Germany, France, England, and other countries. Students will perform the material.

Music 466 Opera and Oratorio Repertoire Semester course; 1 lecture hour. 1 credit. • A survey of opera and oratorio literature. Students will be required to perform much of the literature.

Music 467-468 Piano Pedagogy Continuous course; 2 lecture hours. 2-2 credits. • Methods and materials for teaching private and class lessons. Student/teacher relationships. First semester: study of elementary levels. Second semester: student teaching and study of more advanced materials and methods.

Music 475 Baroque Practices: Harpsichord Semester course; 2 lecture hours. 2 credits. • Study of late Baroque performance practices, keyboard composition, ornamentation, tempo, and real rhythm. Music by J. S. Bach, C. P. E. Bach, and D. Scarlatti will be performed by the class.

COURSES IN PAINTING AND PRINTMAKING

Painting and Printmaking 205-206. Painting, Basic Composition Continuous course; 8 studio hours. 4-4 credits. • First semester: An introduction to the use of paints with an emphasis on the organization of the artistic image, through the use of plastic form and color. Second semester: Intensification of painting problems coupled with analysis of historical and contemporary works.

Painting and Printmaking 215-216 Printmaking, Basic Continuous course; 6 studio hours. 3-3 credits. • The first semester is an introduction to the

use of inks, brayers, and presses with work in relief printing, collagraph, and woodcut. Second semester: introduction to and investigation of screen printing and work in color.

Painting and Printmaking 221-222 Drawing, Basic Continuous course; 6 studio hours. 3-3 credits. • Drawing instruction with attention to extension of the student's knowledge of the tools of drawing. Materials and techniques will be related to pictorial organization.

Painting and Printmaking 305-306 Painting, Intermediate Continuous courses; 8 studio hours. 4-4 credits. • Primary emphasis on the development of an individual direction in the context of contemporary ideas and images in painting.

Painting and Printmaking 315-316 Printmaking, Intermediate (Planographic) Continuous course; 6 studio hours. 3-3 credits. • Investigation of techniques and technical printing problems in planographic printing processes from stones and plates.

Painting and Printmaking 317-318 Printmaking, Intermediate (Intaglio) Continuous course; 6 studio hours. 3-3 credits. • Investigation of intaglio printmaking; drypoint, etching, engraving, aquatint, soft grounds, and related techniques.

Painting and Printmaking 319-320 Printmaking, Intermediate (Serigraphy) Continuous course; 6 studio hours. 3-3 credits. • An investigation of cut, hand-drawn, and photographic stencil techniques and printing on a variety of surfaces.

Painting and Printmaking 321-322 Drawing, Intermediate Continuous course; 6 studio hours. 3-3 credits. • Drawing for advanced students with special emphasis on creative response to the drawing as a work of art.

Painting and Printmaking 405-406 Painting, Advanced Continuous course; 8-12 studio hours. 4-6 credits. • More ambitious projects with the aim of developing in the senior student a highly professional approach and achievement in his work. Individual as well as group discussions.

Painting and Printmaking 415-416 Printmaking, Advanced Continuous course; 6-12 studio hours. 3-6 credits. • Specialization in one medium with emphasis upon technical research and esthetic suitability of the design to the particular medium used.

Painting and Printmaking 417-418 Printmaking, Advanced (Etching) Continuous course; 6-12 studio hours. 3-6 credits. • Further investigation of intaglio printmaking with specialization in one medium.

Painting and Printmaking 419-420 Printmaking, Advanced (Serigraphy) Continuous course; 6-12 studio hours. 3-6 credits. • Further exploration of cut, hand-drawn, and photographic stencil techniques and printing on a variety of surfaces.

Painting and Printmaking 421-422 Drawing, Advanced Continuous course; 6 studio hours. 3-3 credits. • A studio for drawing with individual criticism. Special attention is given to contemporary concepts.

COURSES IN PHOTOGRAPHY

Photography 243-244 Basic Photography Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. • Study of the fundamental techniques of the camera and photographic processes for expressive possibilities in relation to the field of visual communication.

Photography 345-346 Photography Workshop Continuous course; 1 lecture hour and 2 studio hours. 2-2 credits. Prerequisite: Photography 243-244. • Class problems in advanced photographic techniques. Emphasis is placed on individual solutions to various photographic problems.

Photography 445-446 Advanced Photography Workshop Continuous course; 2 lecture hours and 8 studio hours. 6-6 credits. Prerequisite: Photography 345-346. • A workshop course dealing with various color processes and emphasis centered on developing a portfolio of professional work.

COURSES IN SCULPTURE

Sculpture 211-212 Sculpture, Basic Continuous course; 8 studio hours. 4-4 credits. • Basic sculptural concepts are introduced which acquaint the student, not only with traditional materials and techniques but also with plastics, metals and their fabrication. Introduction is made to the utilization of shops, tools, foundry, and casting.

Sculpture 311, 312 Sculpture, Intermediate Semester courses; 8 studio hours. 4, 4 credits. • Work in a great variety of materials and ideas; also experimenting with media such as plastics and special techniques. Emphasis on direct work and creative independence.

Sculpture 411, 412 Sculpture, Advanced Semester courses; 8 or 12 studio hours. 4 or 6 credits. • Emphasis on large sculpture and advanced techniques. Development of the individual's personal style is encouraged.

SCHOOL OF ARTS AND SCIENCES

J. EDWIN WHITESELL, Dean

LEWIS C. GOLDSTEIN, Assistant Dean

JOHN H. BORGARD, Assistant Dean

The School of Arts and Sciences is composed of 11 departments: Biology; Chemistry; English; Foreign Languages; History, Political Science, and Geography; Journalism; Mathematical Sciences; Philosophy and Religious Studies; Physics and Physical Science; Psychology; and Sociology and Anthropology. Courses in philosophy and religious studies are offered as electives. Baccalaureate degrees are offered in all departments except the Department of Philosophy and Religious Studies. Information concerning curricula in all departments is given in their respective sections.

Graduate programs are offered by the Department of Biology, the Department of Chemistry, the Department of Psychology, and the Department of Sociology and Anthropology. The graduate program in the Department of Mathematical Sciences is pending. For details of the graduate programs in all of these departments, see the **Graduate Bulletin**, available upon request.

TWO-YEAR PROGRAM IN LIBERAL ARTS

JAMES D. PENDLETON, Adviser

A two-year program in liberal arts leading to the degree of Associate in Arts aims to meet the needs of those students who expect to attend college two years only or who intend to transfer to one of the four-year programs

offered by the School of Arts and Sciences or of students who wish to enroll in the School of Arts and Sciences but have not yet selected a major field leading to a baccalaureate degree. Students enrolled in this curriculum may also qualify for transfer without loss of credit to certain of the degree programs offered in the School of Education and the School of Community Services.

Students who complete the curriculum outlined below with a grade average of "C" or better may, upon application, be awarded the degree of Associate in Arts.

Associate in Arts Degree Curriculum

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
English 101-102. Composition and Literature	3	3
Foreign Language	3-4	3-4
History 101-102. History of Civilization or		
History 103-104. History of Modern Europe or		
History 201-202. American History	3	3
Laboratory Science	4	4
Mathematics 101-102. Algebra and Trigonometry or higher level mathematics or		
Logic (Philosophy 221, 222) or		
Latin	3	3
	<hr/> 16-17	<hr/> 16-17
	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>Second Year</i>		
English Electives	3	3
Foreign Language or		
Approved Electives	3	3
Six courses (18 credits) from the following or		
Other Approved Electives	9	9
Art		Political Science
Economics		Psychology
History		Religious Studies
Mathematics		Science
Music		Sociology
Philosophy		
Physical Education (a maximum of 2 credits)		
	<hr/> 15-16	<hr/> 15-16

GENERAL REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

A total of 124 credits, no more than four of which may be in physical education (activities).

The credits are to be distributed as follows:

1. English (including English 101-102)	12 credits
2. Mathematics or Logic (Philosophy 221, 222) (either one) ..	6 credits
3. Foreign Language*	12 credits
4. History (including either 101, 102 or 103, 104 or 201, 202) ..	12 credits
5. Laboratory Science	8 credits
6. Humanities Electives (Art, Humanities 201-202, Literature, Music, Philosophy, Religious Studies)	6 credits
7. Social Science Electives (Afro-American Studies, Anthropology, Economics, Geography, History, Mass Communications, Political Science, Psychology, Social Science 201-202, Sociology)	6 credits
8. Major	30 credits
9. Approved Electives (as approved by the major department)	23 credits
10. Free Electives (taken at VCU only)	9 credits
	<hr/> 124 credits

GENERAL REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE

A total of 124 credits, no more than four of which may be in physical education (activities).

The credits are to be distributed as follows:

1. English (including English 101-102)	12 credits
2. Mathematics	6 credits
3. Foreign Language or Computer Science (either one)	6 credits
4. Humanities Electives (Art, Humanities 201-202, Literature, Music, Philosophy, Religious Studies)	6 credits
5. Social Science Electives (Afro-American Studies, Anthropology, Economics, Geography, History, Mass Communications, Political Science, Psychology, Social Science 201-202, Sociology)	6 credits
6. Laboratory Science (full year in one science, other than the major)	8 credits
7. Major (minimum; some departments may require more)	30 credits
8. Approved Electives (as approved by the major department)	41 credits
9. Free Electives (taken at VCU only)	9 credits
	<hr/> TOTAL 124 credits

* Students who are admitted with two or more high school units in language entrance requirements but do not qualify by placement test for admission to the second-year language course must repeat the first-year course of that same language (without credit) or must complete two years of a different language to satisfy the foreign language requirements. Students who are admitted (as exceptions) with fewer than two high school units in language entrance requirements must complete the first-year course (with credit) in addition to the 12 credits required for the B.A. degree. Students who complete the second-year level of one foreign language may elect to complete the first year of a second language to satisfy language requirements for the B.A. degree.

Specific courses from the preceding requirements for the B.A. and B.S. degrees as designated by the separate departments are shown in the following pages under the departmental curricula.

BIOLOGY

RICHARD R. MILLS, Chairman of the Department

JAMES R. REED, JR., Assistant to the Chairman

Kenneth K. Asplund / Charles R. Blom / Joseph F. Chinnici

William V. Dashek / Lewis C. Goldstein / Jackson E. Jeffrey

Miles F. Johnson / T. Daniel Kimbrough, Jr. / Gerald C. Llewellyn

Margaret L. May / Kenneth R. Orwig / John F. Pagels / Ronald D. Parker

John D. Reynolds / Walter L. Richards, Jr. / Arthur J. Seidenberg

John M. Sharpley / George M. Simmons, Jr.

The Department of Biology offers a Bachelor of Science degree to prepare students for graduate study in biology; for teaching science in the secondary school; for employment in biological, public health, and industrial laboratories and in related fields of business and industry; and for admission to schools of dentistry, medicine, nursing, and pharmacy. There are cooperative programs which lead to a B.S. degree in physical therapy and to an associate degree in radiologic technology.

For information about the graduate program in biology, see the **Graduate Bulletin**, available upon request.

In addition to these curricula, there are programs in pre-medicine and in pre-dentistry which are designed to prepare students to enter professional schools that accept students upon the completion of three years of successful undergraduate work. The University has an arrangement whereby it will award a B.S. degree to a student who earns a degree in either medicine or dentistry from an accredited school in lieu of completing the fourth year of work on campus.

The curriculum below satisfies the admission requirements for most schools of medicine and dentistry, serves those interested in a basic background in all areas of science, and—with the selection of appropriate elective courses—permits concentration in biology, chemistry, or physics.

Curriculum in Science (B.S)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology	4	4
Chemistry 101-102. General Chemistry	4	4
English 101-102. Composition and Literature	3	3
Foreign Language or Computer Science	3	3
Mathematics 101-102. College Algebra and Trigonometry or		
Mathematics 107, 200. Algebra and Trigonometry and Analytic Geometry and Calculus	3	3-4
	<hr/> 17	<hr/> 17-18

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Biology 201-202. Vertebrate Morphology and Embryology ..	4	4
Chemistry 301-302. Organic Chemistry	4	4
English Elective	3	3
Psychology 201. General Psychology	3	—
Approved or Free Electives*	3	4
	<hr/> 17	<hr/> 15

Third Year

Physics 105-106. General Physics or		
Physics 207-208. University Physics	4	4
Approved Electives. Advanced Science	8	4
Approved Electives. Humanities	3	3
Approved Elective. Social Science	—	3
	<hr/> 15	<hr/> 14

Fourth Year

Approved Electives. Advanced Science	4	4
Approved or Free Electives*	12	9
	<hr/> 16	<hr/> 13

The following curriculum satisfies the admission requirements for most graduate schools and permits the student to concentrate in biology.

Curriculum in Biology (B.S.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology	4	4
Mathematics 101-102. College Algebra and Trigonometry or		
Mathematics 107, 200. Algebra and Trigonometry and Analytical Geometry and Calculus	3	3-4
English 101-102. Composition and Literature	3	3
Foreign Language** or Computer Science	3-4	3-4
	<hr/> 13-14	<hr/> 13-15

* No more than nine credits may be free electives.

** Students may need to take advanced language courses if they plan to do graduate work.

	<i>Credits</i>	
	<i>1st</i>	<i>2nd</i>
	<i>Sem.</i>	<i>Sem.</i>
<i>Second Year</i>		
Biology Electives**	4	4
Chemistry 101-102. General Chemistry	4	4
English Elective	3	3
Physics 105-106. General Physics	4	4
	15	15
<i>Third Year</i>		
Biology Electives**	4	4
Chemistry 301-302. Organic Chemistry	4	4
Approved Electives. Humanities	3	3
Approved Electives. Social Science	3	3
Approved or Free Electives*	3	3
	17	17
<i>Fourth Year</i>		
Biology Electives**	4	4
Approved or Free Electives*	12	12
	16	16

Areas From Which Courses Must be Taken****Botany**

- 207—Survey of the Plant Kingdom
- 208—Biology of the Seed Plant
- 304—Mycology
- 409—Plant Anatomy
- 410—Spring Flora
- 411—Summer Flora
- 418—Plant Ecology

Biology

- 310—Genetics
- 400—Ecology
- 412—Radiation Biology
- 414—Aquatic Ecology
- 426—Physiological Ecology

Zoology

- 201—Vertebrate Morphology
- 202—Vertebrate Embryology
- 204—Invertebrate Zoology
- 308—Vertebrate Histology
- 309—Entomology
- 313—Vertebrate Natural History
- 403—Biology of the Fishes
- 413—Parasitology
- 416—Ornithology
- 417—Mammalogy

Cellular Biology

- 303—Bacteriology
- 311—General Physiology
- 401—Industrial Microbiology
- 405—Bacterial Physiology
- 420—Plant Physiology

Biology courses not listed above cannot be applied to satisfy the major requirements.

* No more than nine credits may be free electives.

** Biology electives should be chosen so that there will be a minimum of one course from each of the four areas indicated. Biology 407-408, Special Problems, may be elected as a second course in any of the four areas.

Curriculum in Pre-Dental Hygiene

The curriculum in pre-dental hygiene meets the minimum academic requirements for application to transfer to the Bachelor of Science degree in the Dental Hygiene Program in the School of Dentistry at the Medical College of Virginia, Health Sciences Division of Virginia Commonwealth University.

		<i>Credits</i>	
		<i>1st</i>	<i>2nd</i>
		<i>Sem.</i>	<i>Sem.</i>
<i>First Year</i>			
Biology 101-102.	General Biology	4	4
English 101-102.	Composition and Literature	3	3
Mathematics 113.	Finite Mathematics	3	—
Sociology 101.	General Sociology	—	3
Approved Electives	.....	5	5
		15	15
<i>Second Year</i>			
Chemistry 101-102.	General Chemistry	4	4
English 201,202.	Western World Literature		
or			
English 203, 204.	English Literature	3	3
Psychology 201-202.	General Psychology	3	3
Speech 121.	Effective Speech	3	—
Approved Electives	.....	2	5
		15	15

Curriculum in Pre-Nursing

The curriculum in pre-nursing satisfies the academic requirements for admission to the School of Nursing at the Medical College of Virginia. After two years at the Academic Division, students may apply for transfer to the MCV School of Nursing, where they will complete the program. If students wish to transfer to a nursing school at another institution, they should refer to its catalogue for its admission requirements.

<i>First Year</i>			
Biology 101-102.	General Biology	4	4
English 101-102.	Composition and Literature	3	3
History 101, 102.	History of Civilization		
or			
History 103, 104.	History of Modern Europe		
or			
History 201, 202.	American History	3	3
Mathematics 113.	Finite Mathematics	3	—
Sociology 101.	General Sociology	—	3
Approved Electives	.....	3	3
		16	16

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Chemistry 103-104. Introduction to Modern Chemistry	4	4
English 201, 202. Western World Literature or		
English 203, 204. English Literature	3	3
Psychology 201-202. General Psychology	3	3
Approved Electives. Humanities	3	3
Approved Elective. Sociology	3	—
Approved Elective	—	3
	16	16

Curriculum in Pre-Physical Therapy

The curriculum in pre-physical therapy is offered in cooperation with schools of physical therapy which are approved by the Council on Medical Education of the American Medical Association in cooperation with the American Physical Therapy Association.

Satisfactory completion of the two-year curriculum will allow for application to schools of physical therapy offering two years of professional education. The physical therapy school grants the Bachelor of Science degree. Although different schools may vary in their requirements, the School of Physical Therapy of the Medical College of Virginia (the Health Sciences Division of Virginia Commonwealth University) requires the following pre-requisites for admission:

	Semester Hours
English	6
Biology (Laboratory Course)	6
General Chemistry (Laboratory Course)	8
General Physics (Laboratory Course)	8
Social Science*	9
General Psychology	3
College Algebra and Plane Trigonometry or Equivalent	3-6
Approved Electives**	18-21
	64

* May be selected from the following:

Adolescent Psychology
Anthropology
Child Psychology
Economics
History
Personality Development
Philosophy
Psychology of Adjustment
Sociology
Statistics

**Recommended electives are:

Foreign Language (Latin, French, or German)
Mathematics (Analytical Geometry, Calculus)
Social and biological sciences, physical education courses such as gymnastics, tumbling, and modern dance

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology	4	4
English 101-102. Composition and Literature	3	3
Chemistry 103-104. Introduction to Modern Chemistry	4	4
Mathematics 101-102. College Algebra and Trigonometry ...	3	3
Approved Electives	3	3
	<hr/> 17	<hr/> 17

Second Year

Physics 105-106. General Physics	4	4
Psychology 201. General Psychology	3	—
Social Science	3	6
Approved Electives	6-7	6-7
	<hr/> 16-17	<hr/> 16-17

Curriculum in Pre-Radiologic Technology

Virginia Commonwealth University offers an Associate in Science degree in Radiologic Technology. The pre-radiologic technology program is designed to satisfy the requirements for entrance to the School of Radiologic Technology at the Medical College of Virginia. After one year at the Academic Division, the student applies for transfer to the School of Radiologic Technology, where he will complete the remaining two years.

First Year (Academic Division)

Biology 103-104. Anatomy and Physiology	3	3
English 101-102. Composition and Literature	3	3
Mathematics 113. Finite Mathematics	3	—
Physics R103. Introductory Physics for Radiology	—	3
Psychology 201. General Psychology	3	—
Electives	3	6
	<hr/> 15	<hr/> 15

Summer Session (Medical College of Virginia)

Radiography R101-102.	5
Patient Care R105.	1
Practicum	—
	<hr/> 6

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year (Medical College of Virginia)</i>		
R200. Radiographic Physics	3	—
R203-204. Radiographic Positioning	3	3
R205. Patient Care	1	—
R206-207. Applied Radiography	4	4
R208. Topographical Anatomy	1	—
R209. Film Critique	—	2
R210. Radiation Safety	—	2
R211. Radiation Therapy and Isotopes	2	—
R212. Departmental Administration	—	1
Practicum	—	—
	14	12

Third Year

Clinical Practice	—	—
TOTAL	62 Credits	

For the B.S. program in Biology Education, see page 245 under the listings for the Department of Secondary Education, School of Education.

CHEMISTRY

MARY E. KAPP, Chairman of the Department

Dale E. Arrington / Robert G. Bass / George C. Grant / John F. Lefelhocz
Raphael M. Ottenbrite / Donald Shillady / B. L. Stump / Leonard Vance

The Department of Chemistry offers a Bachelor of Science degree to prepare students for graduate study in chemistry; for teaching science in the secondary schools; for employment in chemical and industrial laboratories and in related fields of business and industry; and for admission to schools of medicine, dentistry, and veterinary medicine. This program satisfies the requirements of the American Chemical Society Committee on Professional Training.

The Bachelor of Arts degree in Chemistry satisfies requirements for entrance to medical schools and for students desiring a chemistry major with more opportunity for electives.

The curriculum in science (see page 104) gives a basic background in the sciences and satisfies admission requirements to most schools of medicine, dentistry, and veterinary medicine. This program is flexible enough to permit concentration in chemistry.

For information about the Ph.D. program in chemistry, offered in conjunction with the Medical College of Virginia, see the **Graduate Bulletin**, available upon request.

Curriculum in Chemistry (B.S.)

Credits
1st 2nd
Sem. Sem.

First Year

Chemistry 101-102. General Chemistry and Qualitative Analysis	4	4
English 101-102. Composition and Literature	3	3
German 101-102/103-104*	3-4	3-4
Mathematics 107. Algebra and Trigonometry or Equivalent ..	3	—
Mathematics 200. Calculus with Analytic Geometry	—	4
Approved Electives. Social Science	3	3
	<hr/> 16-17	<hr/> 17-18

Second Year

Chemistry 202. Quantitative Analysis	—	4
Chemistry 301-302. Organic Chemistry	4	4
Mathematics 201-202. Calculus with Analytic Geometry	4	3
Physics 207-208. University Physics	4	4
Approved Elective	3	—
	<hr/> 15	<hr/> 15

Third Year

Chemistry 303. Physical Chemistry	3	—
Chemistry 304. Physical Chemistry	—	3
Chemistry L304. Physical Chemistry Laboratory	—	2
English Electives	3	3
Mathematics 301. Differential Equations	3	—
Approved or Free Electives*** †	6-7	9
	<hr/> 15-16	<hr/> 17

Fourth Year

Chemistry 406. Advanced Inorganic Chemistry	—	3
Chemistry 409. Advanced Analytical Chemistry	4	—
Approved or Free Electives *** †	10	12
	<hr/> 14	<hr/> 15

* Students may need to take advanced language courses if they plan to do graduate work.

*** No more than nine credits may be free electives.

† Either Chemistry 403 or Chemistry 401 with Chemistry L401 must be taken to satisfy B.S. degree requirements.

Curriculum in Chemistry (B.A.)

Credits
1st 2nd
Sem. Sem.

First Year

Chemistry 101-102. General Chemistry and Qualitative Analysis	4	4
English 101-102. Composition and Literature	3	3
Foreign Language*	3-4	3-4
Mathematics 107. Algebra and Trigonometry	3	—
Mathematics 200. Calculus with Analytic Geometry	—	4
	<hr/> 13-14	<hr/> 14-15

Second Year

Chemistry 202. Quantitative Analysis	—	4
Mathematics 201-202. Calculus with Analytic Geometry	4	3
Physics 207-208. University Physics	4	4
Foreign Language*	3	3
Approved Electives**	9	9
	<hr/> 17	<hr/> 17

Third Year

Chemistry 301-302. Organic Chemistry	4	4
English Electives	3	3
Approved Electives**	9	9
	<hr/> 16	<hr/> 16

Fourth Year

Chemistry 303-304. Physical Chemistry	3	3
Chemistry L304. Physical Chemistry Laboratory	—	2
Approved Elective. Chemistry	—	3
Approved or Free Electives***	12	8
	<hr/> 15	<hr/> 16

For the B.S. program in Chemistry Education, see page 246 under the listings for the Department of Secondary Education, School of Education.

* See foreign language requirement for the B.A. degree in general.
 ** Students may need to take advanced language courses if they plan to do graduate work.
 *** See general requirements for the B.A. degree regarding history and social sciences and/or humanities.
 *** No more than nine credits may be free electives.

Curriculum in Pre-Medical Technology

Virginia Commonwealth University offers a Bachelor of Science degree in Medical Technology. The pre-medical technology program is designed to satisfy the requirements for entrance into the School of Medical Technology in the Medical College of Virginia.

The curriculum in general will satisfy the requirements for admission to most schools of medical technology, but students considering applying to another school should acquaint themselves with the specific requirements of the school to which they wish to apply. Any student who wishes to transfer to a school other than MCV must transfer to a school that will confer a degree at the completion of the fourth year.

After satisfactory completion of 90 semester hours (3 years) of the curriculum, including 16 hours of biology and 16 hours of chemistry, students are eligible to apply for transfer to the School of Medical Technology. Classes in the School of Medical Technology start each year in June and continue to the following June. It is recommended that students pursuing the curriculum apply to the School of Medical Technology at the end of their second year. Admission to the School of Medical Technology will be based on the scholastic record, demonstrated aptitude, and a personal interview by the school's admissions committee. On completion of the fourth year, students are eligible for the national examination for certification by the Registry of Medical Technologists of the American Society of Clinical Pathologists.

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology	4	4
Chemistry 101-102. General Chemistry and Qualitative Analysis	4	4
English 101-102. Composition and Literature	3	3
Mathematics 101-102. College Algebra and Trigonometry or Mathematics 107-200. College Algebra and Trigonometry and Calculus with Analytic Geometry	3	3-4
	<hr/> 14	<hr/> 14-15

These additional courses are strongly recommended:

Biology 205, 4 credits; Biology 206, 4 credits; Biology 303, 4 credits.

Chemistry 301-302, 8 credits; Chemistry 202, 4 credits.

English, 6 credits.

Electives to complete 94 credits. (Courses in the non-sciences are strongly recommended.)

Curriculum in Pre-Pharmacy

The curriculum in pre-pharmacy is designed to satisfy the requirements for entrance to the School of Pharmacy at the Medical College of Virginia. Although satisfactory completion of the program will allow for application to the School of Pharmacy, it does not insure acceptance.

The curriculum in general will satisfy the requirements for admission to most schools of pharmacy, but a student should acquaint himself with the specific requirements of the school to which he wishes to apply.

The program as outlined below includes 39 hours in required subject areas and 24 hours of electives, of which a minimum of 18 hours must be selected from areas in the humanities.

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology	4	4
English 101-102. Composition and Literature	3	3
Mathematics 101-102. College Algebra and Trigonometry ...	3	3
Approved Electives. Humanities	6	6
	16	16
<i>Second Year</i>		
Chemistry 101-102. General Chemistry and Qualitative Analysis	4	4
Economics 201-202. Principles of Economics	3	3
Physics 105-106. General Physics	4	4
Approved Electives. Humanities	3	3
Approved Elective	3	—
	17	14

ENGLISH

ALBERT M. LYLES, Chairman of the Department

C. W. GRIFFIN, Director of Freshman English

Mary L. Albrecht / Robert A. Armour / Sudie Y. Beck / Jeanne F. Bedell

Helen Berkowitz / Susan P. Blanton / E. Allan Brown / John A. Carstens

Frank W. Childrey, Jr. / Joyce Z. Connors / Walter R. Coppedge

Mary E. Culp / Gertrude C. Curtler / Elizabeth F. Duke / J. Maurice Duke

Louisa P. Fawley / Ann T. Foster / Atalissa S. Gilfoyle / William F. Goggin*

Robert Grattan III / Marilyn S. Greenberg / Elsie A. Griffin

Nathaniel H. Henry / M. Thomas Inge / David E. Ingold / Anne S. Jordan

Betty Lloyd / Earl N. Lockard / George C. Longest / Jeanne S. Lynch

Robert C. Markham / Patricia E. Mitchell / Douglas K. Morris

Jerry D. Morton / Sandra Panici / James D. Pendleton / Edward C. Peple, Jr.

Phil R. Phelps / Elizabeth R. Reynolds / Raymond P. Rhinehart

Mary Lynn Skinner / Margaret G. Tinsley / J. Edwin Whitesell

R. Shade Wilson / Richard K. Zacharias

Part time—Carolyn E. DiBiaggio

* On leave 1970-71.

The Department of English offers two degree programs, one leading to the Bachelor of Arts degree in the School of Arts and Sciences and the other leading to the Bachelor of Science in Secondary Education conferred through the School of Education. In addition, the department offers required and elective courses in English composition, language, and literature for students in other programs of study as well as for those majoring in English.

The Bachelor of Arts curriculum in English requires a minimum of 124 credits, including 42 credits in English, 30 of which must be in advanced courses (300-400 level) offered by the English Department. In addition to the general degree requirements of the School of Arts and Sciences stated on page 103 of this **Bulletin**, students majoring in English will take English 401 (Shakespeare); English 402 (Chaucer) or English 403 (Milton); English 303 (Modern Grammar) or English 451 (History of the Language); and will elect the remainder of their departmental courses from upper-division offerings in English.

Candidates for the Bachelor of Science degree must complete a minimum of 124 credits in a curriculum meeting the general and professional education certification requirements prescribed by the Virginia State Board of Education and stated on page 232 of this **Bulletin**. At least 36 credits in English courses are required for the degree. Students are advised to elect sufficient courses in at least one other subject to qualify them for endorsement in that area.

Curriculum in English (B.A.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology		
or		
Chemistry 103-104. Introduction to Modern Chemistry		
or		
Physics 203-204. General Physics	4	4
English 101-102. Composition and Literature	3	3
History 101, 102.* History of Civilization		
or		
History 103, 104.* History of Modern Europe		
or		
History 201, 202.* American History	3	3
Foreign Language**	3-4	3-4
Mathematics 103-104. Freshman Mathematics		
or		
Philosophy 221, 222. Logic	3	3
Approved or Free Electives***	1	1
	17-18	17-18

* At least 12 credits in history are required for the B.A. degree.

** See foreign language requirements for B.A. degree on page 103.

*** No more than nine credits may be free electives.

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>Second Year</i>		
English Electives	3	3
Humanities Electives (Art, Humanities 201-202, Literature, Music, Philosophy, Religious Studies)	3	3
Foreign Language**	3	3
Social Science Electives (Afro-American Studies, Anthropology, Economics, Geography, History, Mass Communications, Political Science, Psychology, Social Science 201-202, Sociology)	3	3
Approved Electives***	3	3
	15	15
<i>Third Year</i>		
English Electives (300-400 level courses)	6	6
Approved or Free Electives***	9	9
	15	15
<i>Fourth Year</i>		
English 401. Shakespeare	3	—
English 402. Chaucer or		
English 403. Milton	—	3
English 451. History of the Language or		
English 303. Modern Grammar	3	—
English Electives (300-400 level courses)	3	6
Approved or Free Electives***	6	6
	15	15

For the B.S. program in English Education, see page 247 under the listings for the Department of Secondary Education, School of Education.

FOREIGN LANGUAGES

WILLIAM J. BECK, Chairman of the Department

John C. Birmingham, Jr. / Edward R. Haymes / Betty Lloyd
Elizabeth M. Miegler / Cécile E. Noble / Estela A. Pandiello
Jean-Louis Picherit / Anna E. Platz / Juliet L. Woodson / Yun-Yuan Yang

The Department of Foreign Languages offers a Bachelor of Arts degree in French and a Bachelor of Science Degree in French Education* to prepare the student for graduate study in the language, for the teaching of French on the secondary level, or for service in fields requiring the knowledge of

* For the B.S. program in French Education, see page 249 under the listing for the Department of Secondary Education, School of Education.

** See foreign language requirements for B.A. degree on page 103.

*** No more than nine credits may be free electives.

French.** Students admitted to the program must have fulfilled the requirements for admission to the University. They should have completed two years of French or should be prepared to make up the deficiency. Students entering with more than one high school unit in any language will not receive credit for the 101-102 courses in that language. Students offering more than two high school units in any language will not receive credit for the 201-202 courses in that language.

The curriculum in French leading to the Bachelor of Arts degree requires a minimum of 124 credits, including 30 hours beyond the 200 level. Students majoring in French are required to take the following courses: French 301, 302 (Survey of Literature), French 303-304 (Advanced Grammar and Translation), French 305 (French Civilization), and 15 hours from any of the 400-level courses, as well as two years of a second foreign language. At least 21 general elective credits must be chosen from related courses approved by the student's adviser.

Substantial course offerings in French, German, and Spanish are listed and described in this **Bulletin**. Some of these courses are also offered in the Evening College. In addition to these, the ones listed below are offered in the Evening College alone. (See the **Evening College Bulletin**.)

Chinese
Hebrew
Italian

Latin
Russian

Curriculum in French (B.A.)

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology		
or		
Chemistry 103-104. Introduction to Modern Chemistry		
or		
Physics 105-106. General Physics	4	4
English 101-102. Composition and Literature	3	3
French 201-202. Intermediate French		
or		
Approved higher level course	3	3
History 101, 102. History of Civilization	3	3
Mathematics 101, 102. College Algebra and Trigonometry		
or		
Mathematics 113-114. Survey of Finite Mathematics		
or		
Philosophy 221, 222. Logic	3	3
Approved or Free Electives*	1	1
	<hr/>	<hr/>
	17	17

* No more than nine credits may be free electives.

** Degree programs in German and Spanish are currently under consideration. Consult the departmental secretary.

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
English Elective	3	3
French 303-304. Advanced Grammar and Translation	3	3
Second Foreign Language 101-102	3-4	3-4
Approved Electives. Humanities, and Social Science	6	6
	15-16	15-16
<i>Third Year</i>		
French 301, 302. Survey of Literature	3	3
French 305. (or 400-level courses)	3	3
History Electives	3	3
Second Foreign Language 201-202	3	3
Approved Electives**	3	3
	15	15
<i>Fourth Year</i>		
French 305. (or 400-level courses)	6	6
Approved or Free Electives**	9	9
	15	15

HISTORY, POLITICAL SCIENCE, AND GEOGRAPHY

F. EDWARD LUND, Chairman of the Department

Thelma S. Biddle* / Alden G. Bigelow / William E. Blake, Jr.
 Alan V. Briceland / James W. Ely / Janipher R. Greene
 Harold E. Greer, Jr. / Daniel P. Jordan / John D. Lyle* / James T. Moore
 Francis C. Nelson / A. A. Rogers / Ruth D. See / Vincent L. Sexton III
 Arnold Schuetz / L. Winston Smith / Robert M. Talbert / John S. Taylor
 Sara E. Teeter / Jerry B. Thomas / Mary J. Tudor / Dennis G. Waller
 Henri J. Warmenhoven / Yun-Yuan Yang

Part time—Robert Lee Gordon, Jr. / Kyotsu Hori / Patricia T. Pober
 Joseph L. Stevens

This department administers and teaches the courses in history, political science, and geography. The history courses stress the development of human institutions and ideas with a view to furthering an understanding of our civilization. In political science, the course offerings emphasize preparation for the intelligent performance of the functions of citizenship.

* On leave 1970-71.

** No more than nine credits may be free electives.

Courses in this department are designed to serve these purposes: first, to offer the courses required as prerequisites or designated as electives in the curriculum; second, to provide a curriculum in history and social science which offers work leading to the Bachelor of Science degree in Education; and, third, to administer the curriculum in history which leads to the degree of Bachelor of Arts.

Candidates for the degree of Bachelor of Arts in History or Bachelor of Science in History and Social Science Education are required to complete a minimum of 124 credits.

Curriculum in History (B.A.)

Credits
1st 2nd
Sem. Sem.

First Year

English 101-102. Composition and Literature	3	3
Foreign Language 101-102 or 201-202	3-4	3-4
History 101, 102. History of Civilization or		
History 103, 104. History of Modern Europe	3	3
Laboratory Science	4	4
Mathematics 101, 102. College Algebra and Trigonometry or		
Mathematics 113, 114. Survey of Finite Mathematics or		
Philosophy 221, 222. Logic	3	3
	<hr/>	<hr/>
	16-17	16-17

Second Year

English 201,202. Western World Literature or		
English 203, 204. English Literature or		
English 205, 206. American Literature	3	3
Foreign Language	3	3
History 201,202. American History	3	3
Approved Electives. Humanities	3	3
Approved Electives. Social Science	3	3
	<hr/>	<hr/>
	15	15

	Credits	
	1st Sem.	2nd Sem.
<i>Third Year</i>		
Advanced History Electives	6	6
Approved Electives (or language, if needed)	3	3
Approved Electives	3	3
Approved or Free Electives*	4	4
	<hr/> 16	<hr/> 16
<i>Fourth Year</i>		
Advanced History Electives	9	9
Approved Electives or Free Electives*	6	6
	<hr/> 15	<hr/> 15

For the B.S. program in History Education, see page 253 under the listings for the Department of Secondary Education, School of Education.

JOURNALISM

GEORGE T. CRUTCHFIELD, Chairman of the Department

J. Edward Grimsley / Jack R. Hunter / William Turpin

The Department of Journalism offers a four-year curriculum designed to give the student a broad background in arts and sciences as well as instruction in communication skills. Courses are provided in four major areas of concentration—the news-editorial sequence, intended primarily for those who wish to prepare themselves for newspaper writing or editing positions; the public relations sequence, designed to prepare students for employment in a public relations capacity in industry, government, or institutions; the magazine sequence, for students who wish to seek careers in magazine writing, editing, and management; and the broadcast news sequence, for students interested in radio and television journalism. All journalism sequences lead to the Bachelor of Science degree.

Students are given the opportunity to work under the supervision of part-time faculty members, with reporters on local media. Several faculty members serve on the staffs of Richmond newspapers and television stations.

The department maintains a placement service to aid students in obtaining positions after graduation.

Candidates for the degree of Bachelor of Science in Journalism are required to complete a minimum of 124 credits as indicated in the curriculum outline. Skill in typewriting is required before the student enters the junior year.

* No more than nine credits may be free electives.

Curriculum in Journalism (B.S.)

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Advertising 101. Principles of Advertising	—	3
English 101-102. Composition and Literature	3	3
Foreign Language or Computer Science	3	3
History 103-104. History of Modern Europe	3	3
Journalism 101. Mass Communications	3	—
Mathematics 113. Finite Mathematics	3	—
Mathematics 114. Finite Mathematics		
or		
Mathematics 213. Introduction to Statistics	—	3
	15	15
<i>Second Year</i>		
English Electives	3	3
History 201, 202. American History	3	3
Journalism 203. News Reporting	3	—
Journalism 210. Mass Media Graphics*	—	3
Laboratory Science	4	4
Political Science 201, 202. American Government	3	3
	16	16
<i>Third Year</i>		
News-Editorial Sequence		
Economics 201-202. Principles of Economics	3	3
Journalism 301. Basic Photo-Journalism	3	—
Journalism 303-304. Advanced Reporting	3	3
Journalism 305. Editing and Makeup	—	3
Journalism 308. Communications Law	3	—
Approved or Free Electives**	3	6
	15	15
Public Relations Sequence		
Economics 201-202. Principles of Economics	3	3
Journalism 301. Basic Photo-Journalism	3	—
Journalism 305. Editing and Makeup	—	3
Journalism 308. Communications Law	3	—
Journalism 321. Publicity	—	3
Approved or Free Electives**	6	6
	15	15

* Broadcast news students should take Journalism 261. Principles of Broadcasting.

** No more than nine credits may be free electives.

	Credits	
	1st Sem.	2nd Sem.
Magazine Sequence		
Economics 201-202. Principles of Economics	3	3
Journalism 301. Basic Photo-Journalism	—	3
Journalism 308. Communications Law	3	—
Journalism 341. Feature and Article Writing	—	3
Journalism 343. Magazine Editing and Materials Preparation	3	—
Approved or Free Electives*	6	6
	15	15
Broadcast News Sequence		
Economics 201-202. Principles of Economics	3	3
Journalism 308. Communications Law	3	—
Journalism 361. News Film	—	3
Journalism 363-364. Advanced Broadcast Reporting	3	3
Journalism 365. Radio-Television Production	3	—
Approved or Free Electives*	3	6
	15	15
<i>Fourth Year</i>		
News-Editorial Sequence		
Humanities Electives	3	3
Journalism 407. Newspaper Management	3	—
Approved or Free Electives*	10	13
	16	16
Public Relations Sequence		
Humanities Electives	3	3
Journalism 422. Public Relations	3	—
Journalism 425. Public Opinion	—	3
Approved or Free Electives*	10	10
	16	16
Magazine Sequence		
Humanities Electives	3	3
Journalism 445. Business and Industrial Journalism	—	3
Approved or Free Electives*	13	10
	16	16
Broadcast News Sequence		
Humanities Electives	3	3
Journalism 467. Broadcast Newsroom Management	—	3
Approved or Free Electives*	13	10
	16	16

* No more than nine credits may be free electives.

Students may elect any non-required journalism course to make a minimum of 30 hours in the major.

MATHEMATICAL SCIENCES

WILLIAM A. GLYNN, Chairman of the Department

Stephen B. Cohen / Reuben W. Farley / Robert H. Johnston

William H. Journey / Edward H. Lezak / Juan F. Linares

C. Michael Lohr / J. Richard Morris / Robert W. Murdock

Malcolm L. Murrill / Edward A. Newburg / Pratip N. Raychowdhury

David A. Schedler / Robert J. Schwabauer / William A. Thedford

David G. Wilson / James A. Wood

The Department of Mathematical Sciences, teaching courses in mathematics, statistics, and computer science, offers a Bachelor of Science degree in Mathematics, and, in conjunction with the School of Education, offers a degree of Bachelor of Science in Mathematics Education to prepare students for teaching in secondary schools.

The curriculum in mathematics is very flexible, permitting the student to plan, in consultation with his adviser, a program which will lead to his particular educational goals. The student is encouraged to utilize the liberal number of electives to explore some of the many areas in which mathematics finds application.

Curriculum in Mathematics (B.S.)

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
English 101-102. Composition and Literature	3	3
Foreign Language*		
or		
Computer Science 201. Introduction to Computing and		
Computer Science 202. Computers and Programming	3	3
Mathematics 107. Algebra and Trigonometry	3	—
Mathematics 200. Calculus with Analytic Geometry	—	4
Social Science Electives	3	3
Approved Electives	3	3
	<hr/> 15	<hr/> 16

* Students may need to take advanced language courses if they plan to do graduate work.

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Biology 101-102. General Biology or		
Chemistry 101-102. General Chemistry	4	4
English Electives	3	3
Mathematics 201-202. Calculus with Analytic Geometry	4	4
Approved or Free Electives**	6	6
	<hr/> 17	<hr/> 17
<i>Third Year</i>		
Humanities Electives	3	3
Mathematics 300. Sets, Logic, and the Real Number System	3	—
Mathematics 310. Linear Algebra	—	3
Mathematics Electives	3	3
Physics 207, 208. University Physics I, II	4	4
Approved or Free Electives**	3	3
	<hr/> 16	<hr/> 16
<i>Fourth Year</i>		
Mathematics 407-408. Advanced Calculus	3	3
Mathematics Electives	3	3
Approved or Free Electives**	9	6
	<hr/> 15	<hr/> 12

PHILOSOPHY AND RELIGIOUS STUDIES

THOMAS O. HALL, JR., Chairman of the Department

Barney R. Freasier, Sr. / William H. Friedman / James E. Lindsey
Jerome L. Lonnes / Harlan P. McGhan / Robert M. Talbert

The department offers courses designed to give the student an understanding of the contributions of religion and philosophy to man's life and thought. Special effort is made to relate these fields of study to man's present cultural environment.

Individual guidance is given to those planning graduate study in philosophy. The department also provides an opportunity for students who have chosen church-related vocations to begin their academic preparation with an objective and descriptive study of religion. The student desiring to enroll for courses is urged to consult with both his major department and the department of philosophy and religious studies.

Application to grant the Bachelor of Arts degree in Philosophy is pending.

** No more than nine credits may be free electives.

PHYSICS AND PHYSICAL SCIENCE

BILLY W. SLOOPE, Chairman of the Department

J. Temple Bayliss / Charles F. Ffolliott / Pratip N. Raychowdhury
René J. Smith

The Department of Physics and Physical Science offers the Bachelor of Science degree through a curriculum designed to give preparation for graduate study, for industrial and research laboratories or allied areas, and for teaching in the secondary schools.

The curriculum leading to a Bachelor of Science in Physics requires a minimum of 124 credits, including a minimum of 36 hours in physics, of which Physics 207, 208, and 307 (or equivalent) and Physics 301, 304, 308, 312, 402, and 404 are required. Mathematics 200, 201, 202, (or their equivalent), 301, and nine additional credits in mathematics at the 300 level or above are required.

For the curriculum leading to the B.S. in Science see page 104.

For the B.S. program in Physics Education, see page 255 under the listings for the Department of Secondary Education, School of Education.

Curriculum in Physics (B.S.)

Credits
1st 2nd
Sem. Sem.

First Year

Biology 101-102. General Biology

or

Chemistry 101-102. General Chemistry	4	4
English 101-102. Composition and Literature	3	3
Mathematics 107. College Algebra and Trigonometry	3	—
Mathematics 200. Calculus with Analytic Geometry	—	4
Social Studies Electives	3	3
Foreign Language* or Computer Science	3	3
	<hr/> 16	<hr/> 17

Second Year

English Electives	3	3
Mathematics 201-202. Calculus with Analytic Geometry	4	4
Physics 207, 208. University Physics I, II	4	4
Approved Electives. Humanities	3	3
Approved or Free Electives**	3	3
	<hr/> 17	<hr/> 17

* Students may need to take advanced language courses if they plan to do graduate work.

** No more than nine credits may be free electives.

	Credits	
	1st Sem.	2nd Sem.
<i>Third Year</i>		
Mathematics 301. Differential Equations	3	—
Mathematics Approved Elective	—	3
Physics 301. Electricity and Magnetism	—	3
Physics 304. Classical Mechanics	3	—
Physics 307. University Physics III	4	—
Physics 308. Thermodynamics	—	3
Physics 311. Intermediate Laboratory	—	2
Approved or Free Electives*	3-6	3
	<hr/> 13-16	<hr/> 14
<i>Fourth Year</i>		
Mathematics. Approved Electives	3	3
Physics 402. Introduction to Quantum Mechanics	3	—
Physics 404. Atomic and Nuclear Physics	—	3
Advanced Physics Course	3	4
Approved or Free Electives*	3-6	3-6
	<hr/> 12-15	<hr/> 13-16

PSYCHOLOGY

EDWIN R. THOMAS, Chairman of the Department

Kent G. Bailey / John A. Blake / Alfred L. Brophy / Joel R. Butler
 Michael W. Etkin / John T. Faults / Yvonne H. Gabet / Robert G. Gibby, Jr.
 William D. Groman / John J. Hartnett / Glenn R. Hawkes / James F. Hooke
 Phyllis A. Hornbuckle / Madeleine C. Hughes / Thomas A. Kirk
 Richard K. Lore / Melvin V. Lubman / Charles D. Noblin / William S. Ray
 Leah T. Robinson / Robert M. Tipton / Joseph D. Warner

Part time—Robert G. Gibby, Sr.

The general objective of the Department of Psychology is to give the student a scientific attitude toward and a better understanding of human behavior; to prepare students for personnel work and for jobs in business and in industry. Those receiving the master's degree work under the supervision of senior psychologists, psychiatrists, and physicians in hospitals, mental institutions, social agencies, and child welfare services, as personnel officers, guidance counselors, etc.

The following degrees are conferred: Bachelor of Science in Psychology, Master of Science in Applied Psychology, Master of Science in Clinical Psychology, and Doctor of Philosophy. Information on the graduate programs is given in a separate **Graduate Bulletin**, available upon request.

* No more than nine credits may be free electives.

This department offers basic courses in psychology to students majoring in all schools and departments.

The four-year curriculum in psychology leads to the degree of Bachelor of Science in Psychology. Candidates are required to complete a minimum of 124 credits.

Curriculum in Psychology (B.S.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology	4	4
English 101-102. Composition and Literature	3	3
Foreign Language or		
Computer Science*	3	3
Mathematics 103-104. Freshman Mathematics	3	3
Approved or Free Electives**	3	3
	<hr/> 16	<hr/> 16
<i>Second Year</i>		
English Electives	3	3
Psychology 201-202. General Psychology	3	3
Psychology 211. Introduction to Statistics	3	—
Sociology 101. General Sociology	3	3
Sociology 103. Cultural Anthropology	—	3
Approved Electives. Humanities	3	3
	<hr/> 15	<hr/> 15
<i>Third Year</i>		
Psychology 301. Child Psychology	3	—
Psychology 317-318. Introduction to Experimental Psychology	3	3
Approved or Free Electives** (300-level courses)	10	13
	<hr/> 16	<hr/> 16
<i>Fourth Year</i>		
Psychology 411. Survey of Psychological Tests	3	—
Psychology 451. History of Psychology	—	3
Electives. Applied Psychology (300-400 level courses)	3	3
Approved or Free Electives**	9	9
	<hr/> 15	<hr/> 15

* Students may need to take advanced language courses if they plan to do graduate work.

** No more than nine credits may be free electives.

SOCIOLOGY AND ANTHROPOLOGY

JOHN H. McGRATH III, Chairman of the Department

Lewis Diana / Albert S. Frances / Jared V. Harper / Noelle R. Herzog
Edward E. Knipe / Michael J. Miller / Jean Moorefield / J. Bernard Murphy
Leonard G. Pasierb / Edward H. Peebles, Jr. / L. Evelyn Roache
B. Krishna Singh / Charles W. Thomas III / Sarah White

Like other behavioral sciences, sociology and anthropology are part of a liberal arts tradition in that they help in the understanding of modern life. Consequently, the curriculum in the Department of Sociology and Anthropology has the general aim of broadening the student's understanding of social life in broad conceptual and analytical terms, while at the same time being flexible enough to meet a variety of interests, goals, and capacities of the student.

The department offers multiple programs with specific requirements for students who wish (1) to study sociology and anthropology as part of a liberal arts program, (2) to enter one of a number of applied fields, and (3) to undertake graduate work.

The curriculum leading to the degree of Bachelor of Science requires a minimum of 124 credits, including 30 credits in advanced courses in sociology.

The Core Curriculum

The core curriculum consists of those courses required of all students majoring in sociology and anthropology. In addition to Sociology 101 (General Sociology), this core includes Sociology 402 (Sociological Theory); Sociology 416 (Social Statistics); and Sociology 420 (Methods of Sociological Research). Of the total 36 credits, 24 must be in advanced courses (300-400).

The Block System

The courses offered by the department are divided into three general blocks, as shown below. All majors must complete at least 24 credits from the three blocks, with a minimum of six credits in courses from Block 1, six credits from Block 2, and three credits from Block 3.

Block 1:

- Sociology 200: The Community
- Sociology 304: Sociology of the Family
- Sociology 315: Sociology of Education
- Sociology 318: Social Thought
- Sociology 327: Urban Sociology
- Sociology 421: Social Stratification
- Sociology 426: Population
- Sociology 436: Industrial Sociology
- Sociology 445: Medical Sociology
- Sociology 475: Social Organization

Block 2:

- Sociology 102: Social Problems in the United States
 Sociology 210: Collective Behavior
 Sociology 331: Juvenile Delinquency
 Sociology 403: Criminology
 Sociology 422: Minority Groups

Block 3:

- Anthropology 103: Cultural Anthropology
 Anthropology 251: Introduction to Archeology
 Sociology 352: Social and Cultural Change
 Anthropology 369: Urban Anthropology
 Anthropology 425: Comparative Belief and Value Systems
 Sociology 428: Comparative Urban Systems
 Anthropology 451: Social Anthropology
 Anthropology 454: Anthropological Theory

Courses not listed in the three blocks above may be taken only as electives.

Undergraduate Topical Seminar

Sociology 499, Anthropology 499, Topical Seminar in Sociology and Anthropology, is an integral part of the program. Depending on the nature of the seminar, the credits earned in such a seminar may, with the permission of the chairman, fulfill the requirements in an appropriate block.

Junior and Senior Tutorials

Sociology 390-391 and 490-491 and Anthropology 390-391 and 490-491 are designed for juniors and seniors capable of doing independent work on selected topics under the direction of specific faculty members. For example, if a course is not being regularly offered in some area of interest to a particular student, and if there are not enough students interested in the area to warrant the offering of a topical seminar, the student may, with the permission of the instructor, enroll in the tutorial program. Credits earned in this program may, with the permission of the chairman, be applied against requirements in an appropriate block.

Graduate Program in Sociology

For information about the master's program in sociology, see the **Graduate Bulletin**, available upon request.

Curriculum in Sociology (B.S.)

		<i>Credits</i>	
		<i>1st</i>	<i>2nd</i>
		<i>Sem.</i>	<i>Sem.</i>
<i>First Year</i>			
Biology 101-102.	General Biology	4	4
English 101-102.	Composition and Literature	3	3

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
Foreign Language 101-102		
or		
Foreign Language 103-104*	3-4	3-4
Mathematics 101. College Algebra	3	—
Mathematics 102. Trigonometry		
or		
Mathematics 213. Introduction to Statistics	—	3
Sociology 101. General Sociology	3	—
Sociology Elective	—	3
	<hr/> 16-17	<hr/> 16-17

Second Year

English Electives	3	3
History 101, 102. History of Civilization		
or		
History 103,104. History of Modern Europe	3	3
Psychology 201. General Psychology	3	—
Approved Electives. Humanities	3	3
Sociology Elective	3	3
Approved or Free Electives**	—	3
	<hr/> 15	<hr/> 15

Third Year

Sociology 416. Social Statistics	3	—
Sociology 420. Research Methods in the Social Sciences ...	—	3
Sociology Electives	6	6
Approved or Free Electives**	7	7
	<hr/> 16	<hr/> 16

Fourth Year

Sociology 402. Sociological Theory	3	—
Sociology Electives	6	9
Approved or Free Electives**	6	6
	<hr/> 15	<hr/> 15

* Students may need to take advanced language courses if they plan to do graduate work.

** No more than nine credits may be free electives.

COURSES OF STUDY IN THE SCHOOL OF ARTS AND SCIENCES**INTERDISCIPLINARY COURSES**

The following two courses are the first of several interdisciplinary courses to be developed in the near future. These courses will be taught by a number of faculty members drawn from several departments, with the aim of assisting the student to gain a broader understanding of ideas and the interrelationships among several fields of study. Registration in these courses is open to all students at VCU with sophomore standing.

Humanities 201, 202 The Great Ideas of Civilized Man Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: Sophomore standing. • An interdisciplinary course structured around archetypal themes, an exploration in depth of ideas which have occupied the thoughts of mankind. Material covered will include selected readings from literature, philosophy, and religion.

Social Science 201, 202. The Dynamics of Rapid Social Change Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: Sophomore standing. • An interdisciplinary course dealing with rapid social change, including case studies, theories, methods and techniques of change.

AFRO-AMERICAN STUDIES

The following courses in the area of Afro-American Studies are open to all students, subject to curricular requirements for their degree programs. Courses in Afro-American Studies are designed to help students gain knowledge and appreciation of the black people and their contributions.

COURSES IN AFRO-AMERICAN STUDIES

Afro-American Studies 100 Africanism Semester course; 3 lecture hours. 3 credits. • An exploration of the world of the black man. Through discussion and field experiences, as well as traditional educational techniques, emphasis will be on worldwide conditions, problems, and achievements of the black peoples.

Afro-American Studies 101 Africa in Transition Semester course; 3 lecture hours. 3 credits. Prerequisite: Afro-American Studies 100 or permission of the instructor. • The impact of modern social change upon the traditional aspects of African life. Various aspects of social change as it applies to the African today will be explored.

Afro-American Studies 102 Sociology of Racism Semester course; 3 lecture hours. 3 credits. • The course will explore the direct and indirect ways in which racial attitudes are acquired, their effect on individuals and society, and the institutional and ideological manifestations of racism as a "faith system," as exploitation, and as a form of human conflict. The central focus of interest will be on black-white relationships. (Same as Sociology 105.)

Afro-American Studies 201, 202 Introduction to Afro-American Studies Semester courses; 3 lecture hours. 3 credits. • A broad overview of the historical, social, economic, psychological, and cultural aspects of Afro-American life.

Afro-American Studies 300 Personality and Behavior of the Afro-American Semester course; 3 lecture hours. 3 credits. Prerequisite: Psychology 201. • A study of personality factors, such as motivation, ego functioning, and the socialization processes with special emphasis on living conditions of Afro-Americans. (Same as Psychology 322.)

Afro-American Studies 310 Economics and Poverty Second semester; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • A study of the economic problems of low-income groups and agency and foundation programs designed to encounter these problems. (Same as Economics 310.)

See also:

English 314 Black American Writers

Geography 333 Geography of Africa

COURSES IN ANTHROPOLOGY

Anthropology 103 Cultural Anthropology Both semesters; 3 lecture hours. 3 credits. • A general survey of the field of anthropology; the development of man and his culture. Liberal use is made of area studies.

Anthropology 251 Introductory Archeology Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • History, development, and current trends in research methods and theories in archeology, illustrated with studies of representative areas of the world.

Anthropology 369 Urban Anthropology Semester course; 4 lecture hours. 4 credits. Prerequisite: Sociology 101 or Anthropology 103. • The application of traditional anthropological techniques to urban settings starting with the early studies of small rural communities to the ethnographic accounts of subcultures within modern metropolitan regions. Special emphases upon field methods and the application of these to actual field experiences of students.

Anthropology 390-391 Junior Tutorial Continuous course. Maximum of 3 credits each semester. Written permission required from the chairman of the department committee on tutorials. • The tutorial is intended to go beyond existing courses to study theories and other specific problems in depth. Students also meet regularly in seminars with faculty.

Anthropology 425 Comparative Belief and Value Systems Semester course; 3 lecture hours. 3 credits. • A survey of anthropological research and theory on belief and value systems of both Western and non-Western societies, with special emphasis on primitive religious, magical, and scientific beliefs.

Anthropology 451 Social Anthropology Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101 or Anthropology 103. • A comparative analysis of culture and social structure.

Anthropology 454 Anthropological Theory Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101 or Anthropology 103. • Major theoretical perspectives in social and cultural anthropology.

Anthropology 490-491 Senior Tutorial Continuous course. Maximum of 3 credits each semester. Written permission required from the chairman of the departmental committee on tutorials. • The tutorial is intended to go beyond existing courses to study theories and other specific problems in depth. Students also meet regularly in seminars with the faculty.

Anthropology 499 Topical Seminar Semester course. A maximum of 6 credits. Prerequisite: permission of the instructor. • Seminar on current specialized areas of anthropological interest.

COURSES IN BIOLOGY

Biology 101-102. General Biology Year course; 3 lecture and 2 laboratory hours. 8 credits. • An introductory course to present the fundamental processes of life through the study of the taxonomy, morphology, and physiology of plants and animals and their relationship to their environment.

Biology 103-104 Anatomy and Physiology Year course; 2 lecture and 2 laboratory hours. 6 credits. • A study of the normal structure and function of the human body. (Open only to students in hospital-affiliated, medical secretarial, and radiologic technology programs.)

Biology 106 Nutrition Second semester; 3 lecture hours. 3 credits. • The fundamental principles of normal nutrition and their application in promoting growth and maintaining health; modification of these diets to meet the needs of persons with common pathological conditions. (Open only to hospital-affiliated students.)

Biology 108 Microbiology Both semesters; 2 lecture and 2 laboratory hours. 3 credits. • A study of the microscopic agents of disease, including methods of disinfection, factors of infecting and immunity, and an introduction to the important infectious diseases. Laboratory emphasis is on methods of study and proper techniques. (Open only to hospital-affiliated students.)

Biology 200 Biological Terminology Semester course; 1 lecture hour. 1 credit. • The study of Greek and Latin word roots, prefixes, and suffixes in the vocabulary of biology through readings and drill with the aid of a dictionary.

Biology 201 Vertebrate Morphology Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • The evolution of vertebrate forms as demonstrated by anatomical studies of selected vertebrate types.

Biology 202 Vertebrate Embryology Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A comparative study of vertebrate development.

Biology 204 Invertebrate Zoology Second semester; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A survey of the invertebrate animals, examining morphologies, life cycles, evolutionary relationships, and the importance of these organisms to man. Selected representative species will be studied in detail in the laboratory.

Biology 205 Basic Human Anatomy First semester; 2 lecture and 4 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A study of human body structure with emphasis on the skeleto-muscular aspect, utilizing the cat for dissection and human specimens and models as demonstrations.

Biology 206 Human Physiology Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A study of the functioning of the human body with emphasis on the experimental procedures.

Biology 207 Survey of the Plant Kingdom Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A study of representative plants and their life cycles.

Biology 208 Botany of the Seed Plant Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A study of the physiology, structure, and development of the seed plant.

Biology 300 Drugs and Their Actions Semester course; 3 lecture hours. 3 credits. • A consideration of how selected drugs act, their effects, and their interactions. A course designed as a general education offering for all interested students.

Biology 303 Bacteriology First semester; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A study of the morphology and physiology of bacteria, yeasts, and molds as applied to their cultivation, identification, economic and hygienic significance.

Biology 304 Mycology Second semester; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 303 or permission of instructor. • The morphology, identification, and laboratory culture of fungi.

Biology 305 Gross Human Anatomy First semester; 2 lecture and 4 laboratory hours. 4 credits. Prerequisites: Biology 101-102 and permission of the instructor. • A regional and systematic study of the basic structure of the human body, using models, prosected specimens, and the dissected cadaver.

Biology 308 Vertebrate Histology Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • The microscopic structure of vertebrate tissues and organs and the techniques used in the preparation of materials for histological study.

Biology 309 Entomology Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 101-102. • A course designed to give the student an appreciation of insect life. Field and laboratory work is

emphasized to illustrate insect diversification, diagnostic features, habitats, and development patterns. A project is required, and some independent work will be necessary.

Biology 310 Genetics First semester; 3 lecture hours. 3 credits. Prerequisite: Biology 101-102. • The basic principles of genetics and eugenics with emphasis on their applications.

Biology 310L Genetics Laboratory First semester; 3 laboratory hours. 1 credit. Prerequisite: Biology 101-102. • Practical experience in the gathering and analysis of genetical data. Can only be taken concurrently with Biology 310.

Biology 311 General Physiology First semester; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: Biology 101-102 and Chemistry 101-102. • Physiological principles illustrated by cells, tissues, organs, and organisms from the viewpoint of chemical and physical phenomena.

Biology 313 Vertebrate Natural History Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: Biology 101-102. • The natural history of vertebrates with emphasis upon species native to Virginia.

Biology 315 Man and Environment 3 lecture hours. 3 credits. Open to non-majors. Prerequisite: Junior or senior status. • Not applicable to the biology major. A comparative study of the ecology and natural history of human populations, including the environments as determining factors in the evolution of human institutions and technology, resource management, and population crises, cultural traditions as mechanisms of population control, basic theory of population biology.

Biology 332 Environmental Pollution Second semester; 3 lecture hours. 3 credits. • An introduction to the causes and effects of air and water pollution in our environment with emphasis on the procedures for detection and abatement.

Biology 400 Ecology Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: 12 credits in biology. • A study of the interaction of the organism and the biological and physical environments.

Biology 401 Industrial Microbiology Semester course; 3 lecture hours. 3 credits. Prerequisite: Biology 303 or equivalent. • General survey of microorganisms of industrial importance with special reference to the paper, food, textile, paint, petroleum, tobacco, chemical, and pharmaceutical industries.

Biology 402 Functional Anatomy of the Extremities Second semester; 1 lecture hour and 6 laboratory hours. 3 credits. Prerequisite: Biology 305. • A detailed study of the anatomy of the extremities, with particular emphasis on functional aspects, by dissection of the human cadaver.

Biology 403 Biology of Fishes Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 201 or permission of instructor. • Evolution, taxonomy, structure, behavior, and ecology of fishes. Laboratory work will include special field trips for the collection of specimens.

Biology 405 Bacterial Physiology Second semester; 3 lecture hours. 3 laboratory hours. 4 credits. Prerequisite: Biology 303 or permission of instructor. • The physiology of bacterial metabolism and growth, industrial and economically important bacteria will be stressed.

Biology 407-408 Special Problems Continuous course. Credit to be arranged. Prerequisite: Consent of the department chairman. • Independent study or research for qualified students, under the direction of a staff member.

Biology 409 Plant Anatomy Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Biology 208. • Preparation and study of cells, tissues, and organs of seed plants.

Biology 410 Spring Flora Second semester; 1 lecture hour and 5 laboratory hours. 3 credits. Prerequisite: Biology 101-102 or permission of instructor. • Identification of the higher vascular plants in the Richmond area. Laboratory work will include field trips for the collection of materials.

Biology 411 Summer Flora Semester course; 1 lecture hour and 5 laboratory hours. 3 credits. Prerequisite: Biology 101-102 or permission of instructor. • Field course in taxonomy of local summer flora.

Biology 412 Radiation Biology Semester course; 3 lecture hours. 3 credits. Prerequisite: 16 credits in science, including eight credits in biology and/or the permission of the instructor. • A presentation by a series of lectures and demonstrations of the fundamentals of radioactivity, including the properties of radiation and the application of radioisotopes and tracer methodology to the biological sciences and nuclear medicine. Included are the biological effects of ionizing radiation on living systems and the theoretical and practical aspects of radiation protection.

Biology 413 Parasitology Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: 14 credits in biology or permission of instructor. • A survey of the life cycles, classification, host-parasite relationships, and general biology of animal parasites.

Biology 414 Aquatic Ecology 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: 12 credits in biology or permission of instructor. • An ecological approach to the physical, chemical, and biological study of fresh water environments with particular consideration given to the methods and principles of evaluating water quality.

Biology 416 Ornithology Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: Biology 101-102 or permission of instructor. • Basic biology of birds, with emphasis on their role in the environment.

Biology 417 Mammalogy Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisites: Biology 101-102 and permission of instructor. • Study of the characteristics, adaptive radiation, and distribution of mammals, with emphasis on North American forms.

Biology 418 Plant Ecology Second semester; 3 lecture and 2 laboratory hours. Two 3-day field trips required. 4 credits. Prerequisite: Biology 400

or consent of instructor. • A lecture, field, and laboratory course concerned with the development, succession, and dynamics of plant communities and their interrelations with climate, soil, biotic, and historic factors.

Biology 420 Plant Physiology Second semester; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: Biology 207 or 208 and Chemistry 301-302. • Cell structure and function, water relations, inorganic plant nutrition, metabolism, and plant growth regulators.

Biology 422 Evolution and Speciation Second semester; 3 lecture hours. 3 credits. Prerequisite: Biology 310 or equivalent. • Study of evolutionary principles, with emphasis on genetic and environmental factors leading to changes in large and small populations of plants and animals, and the mechanisms responsible for speciation.

Biology 425 Kinesiology Semester course; 1 lecture hour and 2 laboratory demonstrations. 2 credits. Prerequisite: Biology 305 or permission of instructor. • A study of the anatomical, physiological, and physical aspects of human motion.

Biology 426 Physiological Ecology Semester course; 3 lecture and 4 laboratory hours. 4 credits. Prerequisite: Biology 400 or 414 or equivalent. • Studies of the physiological adjustments and adaptations made by organisms in response to their environment.

Biology 429 Neuroanatomy Second semester; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Biology 305 or permission of instructor. • A study of the morphology and functional aspects of the central and peripheral nervous system of the human body.

COURSES IN CHEMISTRY

Chemistry 101-102 General Chemistry Year course; 3 lecture and 4 laboratory hours. 8 credits. Prerequisite or corequisite: Mathematics 101-102 or 107. • Fundamental principles and theories of inorganic chemistry, including qualitative analysis.

Chemistry 103-104 Introduction to Modern Chemistry Year course; 3 lecture and 3 laboratory hours. 8 credits. • Fundamental principles and theories to provide an understanding of the scope and aims of modern chemistry with some emphasis on descriptive inorganic chemistry, organic chemistry, biochemistry, and geochemistry. (For the non-science and non-engineering student. This course will not be accepted as a prerequisite for advanced chemistry courses.)

Chemistry 105 Survey of Chemistry Semester course; 3 lecture and 2 laboratory hours. 4 credits. • An elementary survey of inorganic and organic chemistry with emphasis on medical applications. (This course will not satisfy laboratory science requirements for any degree program.)

Chemistry 202 Quantitative Analysis Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisites: Chemistry 101-102 or equivalent and Mathematics 101-102 or equivalent. • Beginning theory and practice of gravimetric, volumetric, and instrumental analysis techniques.

Chemistry 301-302 Organic Chemistry Year course; 3 lecture and 4 laboratory hours. 8 credits. Prerequisite: Chemistry 101-102 or equivalent. • A comprehensive survey of the aliphatic and aromatic series of organic compounds.

Chemistry 303 Physical Chemistry Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 207-208 and Mathematics 201-202. • Ideal and non-ideal gases, thermodynamics, free energy, and chemical equilibrium.

Chemistry 304 Physical Chemistry Semester course; 3 lecture hours. 3 credits. Prerequisite: Chemistry 303. • Quantum chemistry, molecular spectroscopy and structure, and chemical kinetics.

Chemistry L304 Physical Chemistry Laboratory Semester course; 8 laboratory hours per week. 2 credits. Prerequisite: Chemistry 202. Corequisite: Chemistry 304.

Chemistry 305 Introduction to Physical Chemistry Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: Chemistry 301-302. • Concepts and principles of physical chemistry as related to the fields of biology, medicine, and veterinary science. (Not for chemistry majors.)

Chemistry 401 Advanced Physical Chemistry Semester course; 3 lecture hours. 3 credits. Prerequisite: Chemistry 303-304 or permission of instructor. • Solution thermodynamics, heterogeneous equilibria, electrochemistry, and introductory biophysical chemistry.

Chemistry L401 Advanced Physical Chemistry Laboratory Semester course; 4 laboratory hours per week. 1 credit. Prerequisite: Chemistry L304 or permission of instructor. Corequisite: Chemistry 401.

Chemistry 403 Qualitative Organic Chemistry Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisite: Chemistry 301-302. • Theory, problems, and laboratory practice of systematic qualitative analysis for organic compounds with emphasis on modern spectrometric and chromatographic methods.

Chemistry 404 Advanced Organic Chemistry Semester course; 3 lecture hours. 3 credits. Prerequisite: Chemistry 301-302 and Chemistry 303-304 or permission of instructor. • An extensive treatment of certain topics of organic chemistry with emphasis on mechanism of reactions, structure, and stereochemistry.

Chemistry 406 Advanced Inorganic Chemistry Semester course; 3 lecture hours. 3 credits. Prerequisite: Chemistry 303-304. • Advanced treatment of atomic structure, chemical bonding, properties of the elements, metal complexes, acid-base theory, and related subjects.

Chemistry 407, 408 Special Problems Semester courses; 3 laboratory hours per credit. Credit to be arranged. Prerequisite: consent of department chairman. • Senior research. Investigation of chemical problems through literature search and experimentation.

Chemistry 409 Advanced Analytical Chemistry Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisites: Chemistry 202 and 303-304.

• Theory and practice of modern spectrophotometric, electroanalytical, and chromatographic techniques. Atomic absorption, selective ion electrodes, and uses of operational amplifiers.

Chemistry 410 Atomic and Molecular Structure Semester course; 3 lecture hours. 3 credits. Prerequisite: Chemistry 303-304. • Survey of the pertinent aspects of quantum mechanics. Line spectra, atomic structure, and molecular bonding.

COURSES IN CHINESE

Chinese 101-102 Elementary Chinese Year course; 3 lecture hours. 6 credits.

Chinese 201-202 Intermediate Chinese Year course; 3 lecture hours. 6 credits. Prerequisite: Chinese 101-102 or 2 units of high school Chinese. • Rapid review of the essentials of grammar; conversation, readings from Chinese literature. (Students entering with more than two high school units in Chinese will not receive credit for this course.)

COURSES IN COMPUTER SCIENCE

Computer Science 201 Introduction to Computing Semester course; 2 lecture hours and 2 laboratory hours. 3 credits. Prerequisite: three years of high school mathematics and satisfactory score on the Mathematics Placement Test. • Basic programming and program structure. Organization and characteristics of computers. Survey of computers, languages, systems, and applications.

Computer Science 202 Computers and Programming Semester course; 2 lecture hours and 2 laboratory hours. 3 credits. Prerequisite: Computer Science 201. • Computer structure, machine language, instructional execution, addressing techniques, and digital representation of data. Several computer projects to illustrate basic machine structure and programming techniques.

Computer Science 301 Introduction to Discrete Structures Semester course; 3 lecture hours. 3 credits. Prerequisite: Computer Science 201. • Review of set algebra, mappings, relations, algebraic structures, directed and undirected graphs, Boolean algebra, and propositional logic with applications to various areas of computer science.

Computer Science 302 Numerical Calculus Semester course; 2 lecture hours and 2 laboratory hours. 3 credits. Prerequisites: Mathematics 201, Mathematics 310, and Computer Science 201. • An introduction to the numerical algorithms fundamental to scientific computer work. The algorithmic approach and the efficient use of the computer are emphasized.

COURSES IN ENGLISH

English 001 Review of English Fundamentals Semester course; 3 lecture hours. No credits. (Offered only in the Evening College.) • An intensive

review of the fundamentals of English grammar, usage, punctuation, mechanics, and spelling; paragraph and theme development; regular exercises and compositions. (Especially recommended for those whose previous preparation in English has been inadequate or for those who wish to improve their writing and speaking. May be taken simultaneously with English 101.)

English 101-102. Composition and Literature Continuous course; 3 lecture hours. 3-3 credits. • Composition and rhetoric; regular themes; readings and discussions; reports and conferences; research paper; types of contemporary literature; prosody.

Note: English 101-102 is prerequisite to all the following English courses. No more than six degree credits may be earned in 200-level courses.

English 201, 202 Western World Literature Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: English 101-102. • A general study of Western world literature, including English and American literature. First semester: Homer to Shakespeare. Second semester: Milton to Faulkner.

English 203, 204 English Literature Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: English 101-102. • A survey of the literature of England with collateral readings, discussions, and reports. First semester: *Beowulf* to Johnson. Second semester: Wordsworth to Auden.

English 205, 206 American Literature Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: English 101-102. • A survey of the literature of the United States. First semester: before 1855. Second semester: since 1855.

English 303 Modern Grammar Semester course; 3 lecture hours. 3 credits. • Brief review of grammatical terminology; emphasis on transformational grammar; some attention to structural grammar.

English 304 Advanced Composition Semester course; 3 lecture hours. 3 credits. Prerequisites: junior standing or permission of the instructor. • Review of rhetoric and the forms of discourse with emphasis on exposition.

English 305-306 Creative Writing: Poetry Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: junior standing or permission of the instructor. • Study of the craft of poetry writing, with instruction in a variety of techniques and guidance toward constructive self-criticism.

English 307, 308 Creative Writing: Stories Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: junior standing or permission of the instructor. • Study of the craft of short story writing with original stories submitted weekly. Students may enter the class either semester, but those taking a second semester will concentrate on revising their first semester work.

English 313 Southern Literature Semester course; 3 lecture hours. 3 credits. • An intensive survey of the literature of the South with special attention to the works of Poe, Kennedy, Page, Cabell, Glasgow, Caldwell, Welty, McCullers, and Faulkner.

English 314 Black American Writers Semester course; 3 lecture hours. 3 credits. • An examination of the contributions of black writers in America from colonial times to the present.

English 315 Modern Fiction Semester course; 3 lecture hours. 3 credits. • An examination of the short story and the novel in the 20th century.

English 316 Modern Poetry Semester course; 3 lecture hours. 3 credits. • A study of British and American poetry in the 20th century.

English 317 Modern Drama Semester course; 3 lecture hours. 3 credits. • A study of the development of the drama since Ibsen, particularly in England and America.

English 319 English Literature, 1660-1744 Semester course; 3 lecture hours. 3 credits. • The age of Dryden and Pope; English nondramatic literature of the Restoration and early 18th century with special attention to Dryden, Defoe, Addison, Steele, Swift, Pope, and Gay.

English 320 English Literature, 1744-1798 Semester course; 3 lecture hours. 3 credits. • The age of Johnson, Boswell, and Goldsmith; an intensive survey of the literature of the second half of the 18th century in England.

English 321 Romantic Literature Semester course; 3 lecture hours. 3 credits. • An intensive survey of the literature of Romanticism in England from 1798 to 1837, with special attention to Wordsworth, Coleridge, Byron, Shelley, and Keats.

English 322 Victorian Poetry Semester course; 3 lecture hours. 3 credits. • An intensive survey of the poetry of Victorian England, with special attention to Tennyson, Browning, Arnold, Rossetti, Swinburne, Morris, Hopkins, and Yeats.

English 323 Victorian Prose Semester course; 3 lecture hours. 3 credits. • An intensive survey of the non-fiction prose of Victorian England, with special attention to Carlyle, Ruskin, Arnold, Newman, Mill, and Pater.

English 324 English Literature 1890-1918 Semester course; 3 lecture hours. 3 credits. • British literature of the 1890's (the Decadents, the Aesthetes, *Fin de siècle*, the Celtic Renaissance), the Edwardians, and the war poets.

English 350 Approaches To Literature Semester course; 3 lecture hours. 3 credits. • The study and application of various critical approaches—historical, sociocultural, psychological, archetypal, and formalist—used in analyzing literary works.

English 361 The Bible As Literature Semester course; 3 lecture hours. 3 credits. • Literary aspects of the Bible will be considered. Also attention will be given to the history of the English Bible. (Same as Religious Studies 361.)

English 371 American Literature, Colonial and Federal Semester course; 3 lecture hours. 3 credits. • A study of the most important writings from the

founding of the first colonies to the establishment of the federal government, with some concentration on Taylor, Edwards, and Franklin.

English 372 American Literature, the American Renaissance Semester course; 3 lecture hours. 3 credits. • A study of the most important writings of the romantics in the 19th century, with some concentration on Poe, Emerson, Thoreau, Hawthorne, Melville, and Whitman.

English 373 American Literature, Realism and Naturalism Semester course; 3 lecture hours. 3 credits. • A study of the most important writings from the end of the Civil War to the coming of World War I, with some concentration on Clemens, Howells, James, and Stephen Crane.

English 374 American Literature, Early 20th Century Semester course; 3 lecture hours. 3 credits. • A study of the most important writings between World War I and World War II, with some concentration on Frost, Eliot, Steinbeck, Hemingway, and Faulkner.

English 375 American Literature, Contemporary Semester course; 3 lecture hours. 3 credits. • A study of the most important writings since World War II, with some attention to such authors as Baldwin, Bellow, Ellison, Lowell, Mailer, Malamud, Updike, and Wilbur.

English 398, 399 Junior Seminar Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: junior standing. • A study in depth of an aesthetic or cultural theme in literature or of a major writer in English or American literature or of a literary genre as directed by the instructor.

English 401 Shakespeare Semester course; 3 lecture hours. 3 credits. • A study of representative comedies, histories, and tragedies.

English 402 Chaucer Semester course; 3 lecture hours. 3 credits. • A study of *The Canterbury Tales* and *Troilus and Criseyde*, with some attention to the lesser works.

English 403 Milton Semester course; 3 lecture hours. 3 credits. • A study of *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, with some attention to the minor poems and selected prose.

English 407 Medieval Epic and Romance Semester course; 3 lecture hours. 3 credits. • A study of the vernacular epic and the romance in England and on the continent prior to 1500.

English 414 The American Novel Semester course; 3 lecture hours. 3 credits. • A study of the American novel from 1789 to the present, with particular emphasis on Cooper, Hawthorne, Melville, Twain, Howells, James, Dreiser, Fitzgerald, Hemingway, and Faulkner.

English 415 English Novel, 18th Century Semester course; 3 lecture hours. 3 credits. • A study of the English novel from its beginnings through Jane Austen.

English 416 English Novel, 19th Century Semester course; 3 lecture hours. 3 credits. • A study of the English novel from Scott through Hardy.

English 421, 422 Comparative Literature Semester courses; 3 lecture hours. 3, 3 credits. • A comparative study of the forms and contents of the literature of Western civilization in translation with some attention to the dominant influence on and interrelationships between English and continental literatures. First semester: ancient, medieval, and renaissance. Second semester: neo-classical, romantic, and modern.

English 423 English Drama, 900-1642 Semester course; 3 lecture hours. 3 credits. • A study of the origin of the English drama and its development until the closing of the theaters in 1642, exclusive of Shakespeare.

English 424 English Drama, 1660-1800 Semester course; 3 lecture hours. 3 credits. • A study of the English drama of the Restoration and 18th century from Dryden and Congreve to Sheridan and Goldsmith.

English 426-427 Playwriting Continuous course; 3 lecture hours. 3 credits. Prerequisite: English 317 or permission of the instructor. • A practical introduction to the creation of original scripts for theatre, television, and/or motion pictures. Works may be selected for reading and performance. (Same as Drama 426-427.)

English 428 Children's Literature See Education 428.

English 431 Literary Criticism Semester course; 3 lecture hours. 3 credits. • A study of the fundamental concepts involved in the practice of criticism. Some attention is given to the historical development of criticism, but the primary focus is on its methods and aims.

English 441 Renaissance Literature Semester course; 3 lecture hours. 3 credits. • A survey of the non-dramatic literature of the 16th century in England from Skelton to Spenser.

English 442 17th Century Literature Semester course; 3 lecture hours. 3 credits. • A study of non-dramatic poetry and prose in England from 1600 to 1660.

English 446 Literature for Adolescents See Education 446.

English 450 Introduction to General Linguistics Semester course; 3 lecture hours. 3 credits. • A survey of all fields within the discipline of linguistics: phonology, morphology, syntax, dialectology, language theory, linguistic systems, and linguistic theory.

English 451 History of the English Language Semester course; 3 lecture hours. 3 credits. • The historical development of the English language; etymology, morphology, orthography, and semantics.

English 471 Minority Voice in American Literature Semester course; 3 lecture hours. 3 credits. • Survey of American ethnic writing with special attention to the contributions of authors of North American Indian, African, Hispanic, Oriental, and Jewish descent.

English 499 Senior Seminar Semester course; 3 seminar hours. 3 credits. Admission by invitation of the department. • A study in depth of a literary topic, or one or two major writers in English or American literature, or a

literary genre as directed by the instructor. Students will present papers on assigned topics for critical discussion.

English course for Engineering Technology Students

English 107 English Communications Both semesters; 5 lecture hours. 3 credits. • This course includes the following areas of study: sentence structure, using resource materials, written and oral expression and improving reading efficiency. (For School of Engineering Technology students only.)

COURSES IN FRENCH

French 101-102 Elementary French Year course; 5 lecture hours and 1 laboratory hour. 8 credits.

French 201-202 Intermediate French Year course; 3 lecture hours and 1 laboratory hour. 6 credits. Prerequisite: French 101-102 or 2 units of high school French. • Rapid review of the essentials of grammar; conversation, readings from French literature. Students entering with more than two high school units in French will not receive credit for this course.

French 301, 302 Survey of Literature Semester course; 3 lecture hours. 3, 3 credits. Conducted in French. Prerequisite: French 201-202 or the equivalent. • First semester: through the 18th century. Second semester: 19th and 20th centuries.

French 303-304 Advanced Grammar and Translation Year course; 3 lecture hours. 6 credits. Prerequisite: French 201-202 or the equivalent. • A systematic review of French grammar with emphasis on the elements of style and vocabulary building; translation of English stylist.

French 305 French Civilization Semester course; 3 lecture hours. 3 credits. Prerequisite: French 201-202 or the equivalent. • The geography and history of France, the French people, their political, social, and economic life, and their culture as reflected in the arts, sciences, philosophy, music, and education.

French 307, 308 French Literature in English Translation Semester course; 3 lecture hours. 3 credits. • First semester: a study of the literature of France from its origin through the 18th century. Second semester: a study of the literature of France of the 19th and 20th centuries. (Not open to French majors. No knowledge of French required.)

French 311, 312 Introduction to Literature Semester courses; 3 lecture hours. 3, 3 credits. Taught in French. Prerequisite: French 201-202 or the equivalent. • First semester: A reading course in French literature; oral and written "exposés" of the short stories of 19th and 20th century authors. Second semester: Emphasis on contemporary writers and critical reviews of journals. (No credit for language majors.)

French 301, 302 Survey of Literature is prerequisite to all of the following courses

French 411 The Middle Ages Semester course; 3 lecture hours. 3 credits. Prerequisite: French 301, 302 Survey of Literature. • Reading and discussion of the following: *La Chanson de Roland*, Chrétien de Troyes, *Erec et Enide*; Aucassin et Nicolette; Villon.

French 412 The 16th Century Semester course; 3 lecture hours. 3 credits. Prerequisite: French 301, 302 Survey of Literature. • A study of the Rhetoriciens; Rabelais; the Court of Francis I; the Pléiade; selections from Montaigne's *Essais*; the Baroque poets.

French 413, 414 The 17th Century Semester course; 3 lecture hours. 3, 3 credits. Prerequisite: French 301, 302 Survey of Literature. • First semester: Readings from the Baroque and Classical prose and poetry of the principal authors of the 17th century; Pascal, La Fontaine, Boileau, La Rochefoucauld, La Bruyère. Second semester: Dramatic literature, emphasizing the works of Corneille, Molière, and Racine.

French 416 The 18th Century Semester course; 3 lecture hours. 3 credits. Prerequisite: French 301, 302 Survey of Literature. • Principal movements in the various genres; the *philosophes*; the growth of liberalism as reflected in the literature of Montesquieu, Voltaire, Diderot, and Rousseau. Readings from Marivaux, Prévost, and Vauvenargues.

French 417 The 19th Century Semester course; 3 lecture hours. 3 credits. Prerequisite: French 301, 302 Survey of Literature. • Pre-Romanticism: Mme de Staël, Rousseau, and Chateaubriand. The Romantic Movement: Lamartine, Hugo, Vigny, Musset, Balzac, and Stendhal. The age of Positivism and Realism: Flaubert, Naturalism and Symbolism.

French 420 The 20th Century Semester course; 3 lecture hours. 3 credits. Prerequisite: French 301, 302 Survey of Literature. • Reading and discussion of the most important novels from Proust to Camus, with special emphasis on Proust, Gide, and Mauriac. A study of the major playwrights, particularly Giraudoux, Anouilh, and Claudel. Poetry from the Surrealists to the contemporary poets.

COURSES IN GEOGRAPHY

Geography 301, 302 Principles of Geography Semester course; 3 lecture hours. 3, 3 credits. • First semester: climate, weather, landforms, soils, and vegetation. Second semester: population, distribution of groups, and how groups of people live and make a living.

Geography 307 Geography of Europe First semester; 3 lecture hours. 3 credits. • A survey of the European continent, including the climate, surface features, natural resources, population, agriculture, industry, and the trade of each European nation and that nation's position in the world today.

Geography 322 World Political Geography Semester course; 3 lecture hours. 3 credits. • A study of geographic factors in world power and international affairs. First semester: Topics such as resources, national unity, boundaries, etc., are discussed. Second semester: Specific areas of international tension will be considered.

Geography 333E Geography of Africa Semester course; 3 lecture hours. 3 credits. • A study of the land forms, climate, peoples, boundaries, trade, and cultural groupings of the African continent.

Geography 345 Geography of Latin America 3 lecture hours. 3 credits. • A study of natural conditions, resources, peoples, and cultures of South America, Mexico, Central America, and the Caribbean.

COURSES IN GERMAN

German 101-102 Elementary German Year course; 5 lecture hours and 1 laboratory hour. 8 credits. • Elementary grammar, reading, and oral drill. Students entering with more than one high school unit in German will not receive credit for this course.

German 103-104 Fundamentals of German Year course; 3 lecture hours each semester. 6 credits. • Elementary grammar, emphasis on translation. Designed for students especially desiring a course in reading German. (Open only to students majoring in science, music, or art. Students contemplating taking more than one year of German should register for German 101 Elementary German.)

German 201-202 Intermediate German Year course; 3 lecture hours and 1 laboratory hour. 6 credits. Prerequisite: German 101-102 or 2 units of high school German. • Rapid review of the essentials of grammar; conversation; readings from German literature. Students entering with more than two high school units in German will not receive credit for this course.

German 301, 302 Survey of Literature Semester courses; 3 lecture hours. 3, 3 credits. Conducted in German. Prerequisite: German 201-202 or the equivalent. • First semester: German Romanticism through the literature of the first half of the 19th century. Second semester: Contemporary German literature.

German 303-304 Advanced Grammar and Translation Year course; 3 lecture hours. 6 credits. Prerequisite: German 201-202 or the equivalent. • A systematic review of German grammar with emphasis on the elements of style and vocabulary building; translation of English stylists.

German 307, 308 German Literature in English Translation Semester course; 3 lecture hours. 3, 3 credits. • First semester: a study of the literature of Germany from the origin through the 18th century. Second semester: a survey of German literature of the late 19th and 20th century. (Not open to German majors. No knowledge of German required.)

German 301, 302 or 303-304 are prerequisite to all of the following courses.
German 351 Literature of the Late 18th Century Semester course; 3 lecture hours. 3 credits. Conducted in German. • The major writers and genres during the period of preclassicism and *Sturm und Drang*.

German 352 German Classicism Semester course; 3 lecture hours. 3 credits. Conducted in German. • A course centering around the works of Goethe and Schiller. Other major writers of the period will be studied to lend breadth and understanding.

German 353 Literature of the Early 19th Century Semester course; 3 lecture hours. 3 credits. Conducted in German. • A course covering the period of romanticism, *Biedermeier* and *junges Deutschland*.

German 354 Literature of the Late 19th Century Semester course; 3 lecture hours. 3 credits. Conducted in German. • A course covering the periods of realism and naturalism.

German 355 Literature of the Early 20th Century Semester course; 3 lecture hours. 3 credits. Conducted in German. • A course dealing with the major authors of the periods of impressionism, expressionism, and *neue Sachlichkeit* during the first half of the 20th century.

German 356 Modern Literature Semester course; 3 lecture hours. 3 credits. Conducted in German. • A course dealing with the literature of the post-war period leading up to the present.

COURSES IN GREEK

Greek 307, 308 Greek Literature in Translation Semester course; 3 lecture hours. 3, 3 credits. • First semester: this course will examine comedy as it appears in the Homeric epic; the plays of Aristophanes, Euripides, and Menander. A study of the 11 plays of Aristophanes, structure and meaning will be among the principal interests of this course, together with a consideration of comic theory, the comic hero, and the comic poet. Second semester: an examination of the principal works of the inventors of tragedy—Homer, Aeschylus, Sophocles, and Euripides. (This course will not satisfy foreign language requirements. No knowledge of Greek required.)

COURSES IN HEBREW

Hebrew 101-102 Elementary Hebrew Year course; 3 lecture hours. 6 credits.

Hebrew 201-202 Intermediate Hebrew Year course; 3 lecture hours. 6 credits. Prerequisite: Hebrew 101-102 or 2 units of high school Hebrew. • Rapid review of the essentials of grammar; conversation, readings from Hebrew literature. (Students entering with more than two high school units in Hebrew will not receive credit for this course.)

COURSES IN HISTORY

History 101, 102 History of Civilization Semester courses; 3 lecture hours. 3, 3 credits. • A survey of the political, social, economic, cultural, and religious elements of world history from earliest man to the present time. First semester: pre-literary history to 1648. Second semester: 1648 to the present.

History 103, 104 History of Modern Europe Semester courses; 3 lecture hours. 3, 3 credits. • An introduction to the political, economic, social, and intellectual history of Europe in its world setting from the Renaissance to the present. First semester: 1500-1815. Second semester: 1815 to the present.

NOTE: History 101, 102 or History 103, 104 are prerequisite to all advanced courses in European, African, and Far Eastern history. Degree credit, however, will not be granted for both 101, 102 and 103, 104. History 201, 202 is prerequisite for all advanced courses in American history. In exceptional cases, permission of the instructor will be accepted in lieu of the prerequisites.

History 201, 202 American History Semester courses; 3 lecture hours. 3, 3 credits. • A general introduction to the history and civilization of the United States from the Age of Discovery to the present, with emphasis on the forces and processes that were major influences in the development of American institutions and ideas. First semester: through 1865. Second semester: 1865 to the present.

History 301 Ancient Greece Semester course; 3 lecture hours. 3 credits. • The history of Greece from the Aegean Civilizations through the Hellenistic Empire.

History 302 Ancient Rome Semester course; 3 lecture hours. 3 credits. • The history of the development of Rome from the early Etruscan period through the decline of the Roman Empire in the West.

History 303, 304 The Middle Ages Semester courses; 3 lecture hours. 3, 3 credits. • A survey of the political, social, economic, religious, and cultural history of the European and Mediterranean communities from the decline of the Roman Empire to Renaissance times. First semester: The breakup of the Graeco-Roman civilization to the Crusades. Second semester: The high middle ages to the disintegration of medieval society.

History 305 The Renaissance First semester; 3 lecture hours. 3 credits. • A history of the secularization of life, thought, and culture occurring in western Europe between the 14th and 16th centuries.

History 306 The Reformation Second semester; 3 lecture hours. 3 credits. • A study of the material and spiritual forces of the 16th and early 17th centuries involved in the cause, course, and consequences of the great upheaval that broke the unity of medieval Christendom.

History 307-308 The Ancient Near East Continuous course; 3 lecture hours. 3, 3 credits. Prerequisite: 6 hours in history or consent of instructor. • A study of the ancient Near Eastern civilizations of Mesopotamia, Egypt, Anatolia, and Syria-Palestine, from the preliterate period to that of the Achaemenid Empire of the Persians. First semester: Pre-literary period to the end of Kassite rule in Babylonia (c. -1160 B.C.). Second semester: The rise and fall of the great Neo-Assyrian, Neo-Babylonian, Hebrew, and Persian Empires (c. -331 B.C.).

History 309, 310 History of England Semester courses; 3 lecture hours. 3, 3 credits. • The origin, rise, and growth of Britain. Emphasis upon the development of English political ideas and institutions, and the significance of Britain in world affairs. First semester: Earliest records to the Restoration. Second semester: The Restoration to the present.

History 311, 312 History of Russia Semester courses; 3 lecture hours. 3, 3 credits. • Russian history from the beginning of the Christian era to the present. Emphasis will be placed on the Bolshevik revolution of 1917 and the development of Soviet Communism.

History 315, 316 History of the South Semester courses; 3 lecture hours. 3, 3 credits. • A regional history placing particular emphasis upon the distinctive culture and problems of the South and of its significance in the history of the United States. First semester: Old South, from Colonial period to 1861. Second semester: New South, from 1865 to the present.

History 317 History of China Semester course; 3 credits. • The development of cultural and political institutions from ancient China to modern times, with emphasis upon development of cultural and political institutions.

History 319 Economic History of the United States Semester course; 3 lecture hours. 3 credits. • A study of the American economic development from colonial beginnings to the present, treating such topics as agriculture, industry, commerce, finance, economic causes and effects of wars, inter-relationships of government and business, role of the entrepreneur, and the economic basis of cultural progress.

History 321 The American Revolution First semester; 3 lecture hours. 3 credits. • A study of the economic, intellectual, institutional, and constitutional changes in British North America which culminated in the American Revolution.

History 323 History of the American Frontier First semester; 3 lecture hours. 3 credits. • A survey of the western movement in the United States from the time the first outposts were established to the end of the frontier in the 19th century. Particular attention to the influence of the frontier upon the American mind and ideals.

History 326 The Early National Period, 1783-1801 Second semester: 3 lecture hours. 3 credits. • A study of the Confederation and Federalist periods in the United States with emphasis on the formation of the Constitution and the political, economic, and cultural institutions of the American nation.

History 327 History of India Semester course; 3 lecture hours. 3 credits. • This course will cover the early history, Hindu and Muslim periods, Gandhi and independence, the partition of India, Nehru's era, and present-day India. The impact of the foreign invasions, including the threat from Red China and India's outlook and its future in the present-day world.

History 329, 330 History and Culture of the Orient Semester courses; 3 lecture hours. 3, 3 credits. • The development of the civilizations of India, China, and Japan, their influences, the transformation of the Far East under the influence of Western imperialism and industrialism, the modern Orient, including the impact of the world wars and revolutions. First semester: To 1853. Second semester: From 1853 to the present.

History 331 Europe, 1648-1815 First semester; 3 lecture hours. 3 credits. ● A study of Europe from the Treaty of Westphalia to the Congress of Vienna, with emphasis upon the Old Regime in France, the French Revolution, and the Napoleonic Era.

History 332 Europe, 1815-1914 Semester course; 3 lecture hours. 3 credits. ● A study of Europe after Vienna with emphasis upon the development of liberalism and nationalism, the rise of fascism and communism, and the diplomatic background to World War I.

History 333 History of Japan to the 19th Century Semester course; 3 lecture hours. 3 credits. ● An introduction to the development of Japanese culture: its social, religious, and economic aspects from earliest times to the 19th century.

History 334 History of Modern Japan Semester course; 3 lecture hours. 3 credits. ● Political and social development of Japan in the 19th and 20th centuries, with special emphasis on Japan's response to Western pressures and her rise to world power.

History 336 Europe Since 1914 Semester courses; 3 lecture hours. 3 credits. ● A historical survey of contemporary Europe from the First World War through the Second World War to the Cold War with an emphasis on social and political relationship and origin of ideology.

History 337, 338 History of Islam Semester course; 3 lecture hours. 3, 3 credits. ● First semester: history of Islam from its beginning to 1453. Second semester: from 1453 to the present.

History 339, 340 The British Empire and Commonwealth Semester courses; 3 lecture hours. 3, 3 credits. ● A study of British expansion with particular reference to the origins and development of the British Empire and the Commonwealth of Nations. First semester: to 1783. Second semester: since 1783.

History 341 European Diplomatic History, 1815-1960 Semester course; 3 lecture hours. 3 credits. ● A historical examination of the foreign policies of the major European nations with emphasis on the diplomatic settlements which have affected major alterations in world power relationships. Full consideration will be given to economic and social forces, both European and global, underlying those changes.

History 343, 344 Virginia History Semester courses; 3 lecture hours. 3, 3 credits. ● A study of the political, economic, and cultural developments in the colony and Commonwealth of Virginia. First semester: Elizabethan period to 1789. Second semester: 1789 to the present.

History 346 Colonial America, 1607-1787 Semester course; 3 lecture hours. 3 credits. ● An examination of the Colonial origins of American institutional development including relevant European influences, political and constitutional evolution, and cultural and economic aspects of early American life.

History 347, 348 A History of Germany Semester courses; 3 lecture hours. 3, 3 credits. ● A study of Germany from the rise of Prussia to the present.

First semester: a study of the political and social development of the German states, beginning with an analysis of the rise of Prussia, followed by an extensive treatment of the Napoleonic Wars, and Germany's struggle for unity and constitutional government in the 19th century. Second semester: a study of Bismarckian diplomacy and Wilhelmian politics, the First World War, Weimar Republic, its fall, and the rise of Nazi Germany, with a review of post-World War II Germany to the present.

History 349, 350 A History of France Semester courses; 3 lecture hours. 3, 3 credits. • First semester: history of France from Gallo-Roman times to the end of the reign of Louis XV (1774). Second semester: from Louis XVI to the present.

History 360 American Labor History Semester course; 3 lecture hours. 3 credits. • A survey of the development of American labor from colonial times to the present, with emphasis on the period since the Industrial Revolution. Particular attention is given to the ideological conflicts within organized labor and to the relations between labor and other elements of society.

History 401, 402 History of Latin America Semester courses; 3 lecture hours. 3, 3 credits. • A survey of Latin American history from pre-Columbian times to the present, covering political, economic, and cultural development, with emphasis upon relations of the Latin American republics with the United States. First semester: to 1825. Second semester: since 1825.

History 403, 404 Civil War and Reconstruction Semester courses; 3 lecture hours. 3, 3 credits. • A history of events leading up to the outbreak of hostilities. First semester: the major campaigns and conditions on the home front. Second semester: a presentation of Appomattox and the Reconstruction era following the surrender in 1865.

History 405, 406 Diplomatic History of the United States Semester courses; 3 lecture hours. 3, 3 credits. • A historical study of diplomatic negotiations and foreign relations of the United States, with emphasis on the background of diplomatic disputes and the factors leading to their settlement. First semester: to 1877. Second semester: since 1877.

History 407 Tudor and Stuart England Semester course; 3 lecture hours. 3 credits. • An interpretive study of the development of early modern England from 1485 to 1714 with emphasis on political, economic, and social history.

History 409 Survey of the History and Culture of Africa Semester course; 3 lecture hours. 3 credits. • To cover the early history, Colonial period, emerging nations, and leaders of Africa south of the Sahara. Emphasis will be upon economic and political developments, peoples and cultures, and will include consideration of the traditional and contemporary philosophy, religion, literature, and arts.

History 410 Americans from Africa: A History Semester course; 3 lecture hours. 3 credits. • A survey of the history and contributions of Negro Americans from the African background to the present time. This course

has been designed to be offered through a series of television lectures with seminars held on campus and at other points. (Offered through the Evening College only.)

History 411, 412 History of Africa Semester courses; 3 lecture hours. 3, 3 credits. • First semester: a history of Africa from prehistoric times through World War II. Second semester: from 1945 to the present, stressing the emergence of the African nations.

History 413 History of Brazil First semester; 3 lecture hours. 3 credits. • A survey of the development of Brazilian culture and institutions from the Portuguese occupation of eastern South America through the Colonial period, independent empire, and the republic to the present time.

History 414 History of Mexico Second semester; 3 lecture hours. 3 credits. • The development of the culture and social structure of the Mexican people and nation since the days of the Aztecs. Particular attention will be given to social and cultural matters and to the more recent period.

History 417 The Gilded Age and Progressivism Semester course; 3 lecture hours. 3 credits. • The history of the United States during the period 1877-1917, with emphasis on industry, labor, agrarian movements, imperialism, and reform.

History 418 The United States in the 20th Century Second semester; 3 lecture hours. 3 credits. • This course offers a study of the United States from 1900 to the present, with an analysis of the effect of domestic and foreign policies on the political, socio-economic, and cultural development of the nation.

History 421, 422 Cultural and Intellectual History of the United States Semester courses; 3 lecture hours. 3, 3 credits. • The development of American life and thought, with emphasis on trends in social and religious ideas, patterns of living, and expressions in literature and the arts. First semester: Colonial period to 1865. Second semester: 1865 to the present.

History 425, 426 Constitutional History of the United States Semester courses; 3 lecture hours. 3, 3 credits. • An analysis of the development of the American constitutional system and constitutional thought, emphasizing English background, problems of government organization, judicial review, the controversy over state sovereignty, significant interpretative problems, and the recently changing role of government in America.

History 427 The Age of Jefferson, 1800-1824 Semester course; 3 lecture hours. 3 credits. • A study of the era of the Virginia Dynasty with emphasis on the maturation of the American political, economic, and cultural institutions and ideas.

History 428 Jacksonian America, 1824-1848 Semester course; 3 lecture hours. 3 credits. • A study of the Jacksonian period with emphasis on the democratization of American life, the westward movement, and the conflicting forces of nationalism and sectionalism.

History 431, 432 Senior Seminar in American Historiography and Interpretation Semester courses; 3 lecture hours. 3, 3 credits. • An introduction to questions in historiography, meaning, methodology, and interpretation in the teaching and writing of American history. First semester: An examination of the nature of the historical discipline. Second semester: An introduction to the variety of interpretations of problems in American history.

History 441, 442 Senior Seminar in European Historiography and Interpretation Semester courses; 3 lecture hours. 3, 3 credits. • An introduction to questions in historiography, meaning, methodology, and interpretation in the teaching and writing of European history. First semester: An examination of the nature of the historical discipline. Second semester: An introduction to the variety of interpretations of the problems of European history from Herodotus to Toynbee.

History 450, 451 Topics in History Semester courses; 2, 3, or 4 hours credit. (To be determined at the time of registration, with a maximum of 6 hours credit for both semesters.) • An independent study course to allow interested students to do research, under the direction of a professor qualified in that field, in an area of major interest. Results of that research may be presented in the form of a written report or an oral examination, at the discretion of the directing professor.

COURSES IN ITALIAN

Italian 101-102 Elementary Italian Year course; 3 lecture hours. 6 credits.

Italian 201-202 Intermediate Italian Year course; 3 lecture hours. 6 credits. Prerequisite: Italian 101-102 or 2 units of high school Italian. • Rapid review of the essentials of grammar; conversation, readings from Italian literature. (Students entering with more than two high school units in Italian will not receive credit for this course.)

COURSES IN JOURNALISM

Journalism 101 Mass Communications Semester course; 3 lecture hours. 3 credits. • The influence of, and techniques used by, mass media. Origin of newspapers and periodicals and their evolution to mass circulation journalism of today. Structure, organization, management, content, and operation of radio, television, and motion picture industries. Attention is paid to roles of advertising and public relations.

Journalism 203 News Reporting Semester course; 3 lecture hours. 3 credits. • Study of the techniques of news reporting on small daily, large daily, and weekly newspapers.

Journalism 210 Mass Media Graphics Semester course; 2 lecture hours, 2 laboratory hours. 3 credits. Prerequisite: Journalism 101. • A lecture-laboratory course on the functions of visual and graphic communication in news in the print and electronic media, involving creative typographic and layout design, pictures and nonverbal elements of communication and perception.

Journalism 215 History of Communications Semester course; 3 lecture hours. 3 credits. Prerequisite: Journalism 101. • A study of the development of mass media in America from Colonial times to the present in the context of the social, political, and economic factors that have contributed to change.

Journalism 261 Principles of Broadcasting Semester course. 3 lecture hours. 3 credits. Prerequisite: Journalism 101. • A basic journalistic introduction to the principles of broadcasting, including organization, structure, and function of stations.

Journalism 301-302 Basic Photo-Journalism Continuous course; 2 lecture and 2 laboratory hours. 3-3 credits. • Study of fundamentals of photography and techniques of camera use in relation to the fields of journalism and visual communications. (Same as Photography 301-302.)

Journalism 303-304 Advanced Reporting Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Journalism 203. • Detailed study of the techniques of securing news as well as the sources of news in the fields of public interest and of judgment in the style of news writing. Emphasis is placed on developing clarity and maturity in the student's writing. Practical exercises and assignments to cover actual news situations are a part of this course.

Journalism 305 Editing and Makeup Semester course; 1 lecture hours and 3 laboratory hours. 3 credits. Prerequisite: Journalism 203. • Practice in copyreading and editing telegraphy copy, a study of copyreading symbols and practices, and a survey of the makeup and design of leading American dailies.

Journalism 308 Communications Law Semester course; 3 lecture hours. 3 credits. • Study of legal limitations affecting publishing, advertising, broadcasting, telecasting, and legal philosophy relating to the media of communications.

Journalism 321 Publicity Semester course; 3 lecture hours. 3 credits. • How to plan, produce, and place publicity copy for various organizations and clients.

Journalism 341 Feature and Article Writing Semester course; 3 lecture hours. 3 credits. • Practice in preparing articles and features for newspapers and magazines. The emphasis is on creative journalistic writing and development of writing skills.

Journalism 343 Magazine Editing and Materials Preparation Semester course; 3 lecture hours. 3 credits. • Study of preparation of copy and illustrative materials for periodical publication. Attention given to industrial, agricultural, business, professional, and denominational periodicals.

Journalism 361 Newsmfilm Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: Journalism 363-364. • A study of the techniques and use of 16mm motion picture film in coverage of news for television.

Journalism 363-364 Advanced Broadcast Reporting Continuous course; 2 lecture and 2 laboratory hours. 3, 3 credits. Prerequisites: Journalism 101, 203, 261, and 365. • A detailed study of the techniques of securing news and style of news writing for broadcast reporting.

Journalism 365 Radio-Television Production Semester course; 1 lecture hour and 4 laboratory hours. 3 credits. Prerequisites: Journalism 101, 203. • Actual practice in radio and television production skills involving studio cameras, audio, motion-picture projection, video-tape operation and control-room switching.

Journalism 401-402 Advanced Photo-Journalism Continuous course; 2 lecture and 2 laboratory hours. 3-3 credits. Prerequisites: Journalism 301-302 or evaluation of portfolio. • Advanced photographic techniques with emphasis on problems of photographing people in their environment and events as they occur. Second semester's work will emphasize student's planning and executing his own picture stories while concerning himself with continuity and emotional appeal of the photograph. Student must provide film and enlarging paper. (Same as Photography 321-322.)

Journalism 407 Newspaper Management Semester course; 3 lecture hours. 3 credits. • Newspaper operations from the standpoint of business and editorial supervision. A study of newspaper plants, advertising, circulation, and business.

Journalism 411, 412 Field Work Semester courses; 4 laboratory hours. 3, 3 credits. • Student works in the field under close supervision of instructor and work supervisor, the latter grading the students on various phases of his on-the-job employment and submitting these reports to the student's adviser. Selected students will take part in departmental programs of communications internships in which they will be enabled to gain practical experience by working with area newspapers, public relations offices, and radio and television stations.

Journalism 419 Journalism in the Schools Semester course; 3 lecture hours. 3 credits. • Study of school newspapers, magazines, and yearbooks, and of problems relating to staff selection, content of publications, copy, layout, advertising, printing, and business phases.

Journalism 422 Public Relations Semester course; 3 lecture hours. 3 credits. • Study of public relations principles and practices, with special attention to tools, media, responsibilities, and potentialities.

Journalism 425 Public Opinion Semester course; 3 lecture hours. 3 credits. • The formation, reinforcement, and change of opinions. The role of major social and political institutions and of the mass media upon attitude change.

Journalism 445 Business and Industrial Journalism Semester course; 3 lecture hours. 3 credits. • Study of and practice in writing for business, industrial, and institutional publications. An examination of the objectives, content, design, printing, and distribution of company publications.

Journalism 467 Broadcast Newsroom Management Semester course; 3-hour seminar. 3 credits. Prerequisites: Journalism 323 and 324. • Skills in operation of a radio or television newsroom from the standpoint of the news manager. A study of station organization, business demands and managerial skills.

COURSES IN LATIN

Latin 101-102 Elementary Latin Year course; 3 lecture hours. 6 credits. • A study of the structure of the language. Vocabulary building. Reading and pronunciation. Translation from Caesar's *De Bello Gallico*. Study of related aspects of Roman civilization. (Students entering with more than one high school unit in Latin will not receive credit for this course.)

Latin 201-202 Intermediate Latin Year course; 3 lecture hours. 6 credits. • Review of grammar. Readings from Cicero. Selected books of Vergil's *Aeneid*. Related study of Roman history and institutions. (Students entering with more than two high school units in Latin will not receive credit for this course.)

COURSES IN MATHEMATICS

Students registering for mathematics courses numbered 101, 102, 107, 113, 114, 115, 116, 200, or 204 must have taken the VCU Mathematics Placement test within the one-year period immediately preceding the beginning of the course. The only exception to this policy is the case in which the stated alternate prerequisite course has been completed at VCU.

No more than 6 hours credit may be earned in mathematics courses numbered 100.

Mathematics 001 Laboratory and Tutorial Semester course; 3 laboratory hours. No credit. Prerequisite: permission of the department. • The purpose of this course is to provide laboratory and tutorial instruction for those seeking remediation or review of high school mathematics. It may be taken concurrently with any course numbered 100, as indicated by the results of the Mathematics Placement Test.

Mathematics 101 College Algebra Unitized course; 3 lecture-laboratory-tutorial hours. 3 classes. 3 credits. Prerequisite: two years of high school algebra, plane geometry, and a satisfactory score on the Mathematics Placement Test. • A self-paced course in the college algebra, using audio-visual and tutorial support in a laboratory setting.

Mathematics 102 Trigonometry Unitized course; 3 lecture-laboratory-tutorial hours. 3 classes. 3 credits. Prerequisite: Mathematics 101 or a satisfactory score on the Mathematics Placement Test. • A self-paced course in trigonometry, using audio-visual and tutorial support in a laboratory setting.

Mathematics 107 Algebra and Trigonometry Unitized course; 3 lecture-laboratory-tutorial hours. 3 classes. 3 credits. Prerequisite: high school

trigonometry and a satisfactory score on the Mathematics Placement Test. • A self-paced course in the combined algebra and trigonometry, using audio-visual and tutorial support in a laboratory setting.

Mathematics 113-114 Survey of Finite Mathematics Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: one year of high school algebra, plane geometry, and a satisfactory score on the Mathematics Placement Test. • Introduction to sets, logic, finite probability, elementary statistics, matrices and determinants, linear programming, and the theory of games.

Mathematics 115-116 Modern Elementary Mathematics Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: one year of high school algebra, plane geometry, and a satisfactory score on the Mathematics Placement Test. • Modern concepts of mathematics, history and development of number systems, algebra and geometry from the teacher's point of view. (Open only to majors in elementary, early childhood, and special education.)

Mathematics 200-201-202 Calculus with Analytic Geometry Continuous course. 4-4-4 lecture hours. 4-4-4 credits. Prerequisite: Mathematics 107 or Mathematics 102 or satisfactory score on the Mathematics Placement Test. • Limits, continuity, derivatives, differentials, antiderivatives, and definite integrals. Applications of differentiation and integration. Selected topics in analytic geometry. Partial differentiation, multiple integration, and infinite series.

Mathematics 204 Elements of Calculus Semester course; 4 lecture hours. 4 credits. Prerequisite: Mathematics 101 or Mathematics 114 or satisfactory score on the Mathematics Placement Test. • A conceptual course containing an introduction to sequences, functions, limits, derivatives and their applications, series, integration, and functions of several variables. (Not open to students in chemistry, engineering, mathematics, or physics.)

Mathematics 213 Introduction to Statistics Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 101 or Mathematics 113 or Mathematics 116. • Elementary probability, organization and analysis of data, combinational analysis, binomial distribution, random sampling, testing hypotheses, non-parametric statistics, regression and correlation, analysis of variance. (Not open to students in mathematics.)

Mathematics 300 Sets, Logic, and the Real Number System Semester course, 3 lecture hours. 3 credits. Prerequisite: Mathematics 201. • An introduction to the basic concepts of set theory and logic, culminating in a rigorous construction of the real number system.

Mathematics 301 Differential Equations 3 lecture hours. 3 credits. Prerequisite: Mathematics 202. • Solution of ordinary differential equations of first order. Linear differential equations with constant coefficients using operator methods. Series solutions and applications.

Mathematics 305 Elementary Number Theory Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 300. • Divisibility, congruences, Euler phi-function, Fermat's theorem, primitive roots, Diophantine equations.

Mathematics 309 Introduction to Probability Theory Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 200. • A study of the mathematical theory of probability and applications of probability to statistical theory, including finite and infinite sample spaces, random variables, discrete and continuous distributions, mathematical expectation, functions of random variables, sampling distributions.

Mathematics 310 Linear Algebra Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 201. • Systems of linear equations, vector spaces, linear dependence, bases, dimension linear mappings, matrices, determinants, quadratic forms, orthogonal reduction to diagonal form, eigenvalues, geometric applications.

Mathematics 311 Vector Analysis 3 lecture hours. 3 credits. Prerequisite: Mathematics 202 (Mathematics 310 strongly recommended). • Topics from the algebra and calculus of vectors, including addition and products of vectors, derivations of vector functions, divergence and curl, integrals of vector functions.

Mathematics 313-314 Statistical Methods Continuous course, 2 lecture hours and 1 laboratory hour. 3-3 credits. Prerequisite: Mathematics 107 or equivalent. • An introduction to basic statistical methods, including the concepts of probability, sampling, distributions, estimation, hypothesis-testing, analysis of variance, covariance, regression, and correlation. Other topics include non-parametric statistics and sequential analysis.

Mathematics 401-402 Algebraic Structures Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: Mathematics 300 and Mathematics 310. • A study of algebraic structure; groups, rings, fields, and vector spaces. Homomorphisms and isomorphisms.

Mathematics 403-404 Modern Concepts of Mathematics Semester course; 3 lecture hours. 3-3 credits. • A study of modern mathematics content in junior and senior high school and related topics. Emphasis is on numeration systems and algebraic structure in Mathematics 403 and on geometry in Mathematics 404.

Mathematics 405-406 Modern Geometry Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: Mathematics 201-202. • Elements of non-Euclidean and of synthetic projective geometries. Introduction to topology.

Mathematics 407-408 Advanced Calculus Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Mathematics 202, 300, 310, or consent of instructor. • Theoretical aspects of the calculus: sequences, limits, continuity, infinite series, series of functions, integration, differential geometry.

Mathematics 409 Introduction to Topology Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 300 or equivalent. • Foundations and fundamental concepts of point-set topology. Topological spaces, metric spaces, continuous mappings, homeomorphism, arcs, curves, and cells.

Mathematics 410 Introduction to Algebraic Topology Semester course; 3 lecture hours. 3 credits. Prerequisites: Mathematics 401 and Mathematics

409. • Barycentric coordinates, simplexes and complexes, chain groups, homology groups of complexes, homology groups of polytopes, elementary applications.

Mathematics 411 Applied Linear Algebra Semester course; 3 lecture hours. 3 credits. Prerequisites: Mathematics 301, 310. • The algebra of matrices, the theory of finite dimensional vector spaces, and the basic results concerning eigenvectors and eigenvalues, with particular attention to applications.

Mathematics 412 Introduction to Complex Analysis Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 407 or 311. • The algebra and geometry of complex numbers, analytic functions, integration, series, contour integration, analytic continuation, conformal mapping.

Mathematics 413-414 Mathematical Statistics Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Mathematics 202. • Probability, discrete and continuous distributions, moment generating functions, limit theorems, estimation, decision theory and testing hypotheses, relationships in a set of random variables, linear models, and design.

Mathematics 415 Numerical Analysis I Semester course; 3 lecture hours. 3 credits. Prerequisite: Mathematics 301 and Computer Science 302. • Solutions of equations, interpolation and approximations, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers.

Mathematics 416 Numerical Analysis II Semester course; 3 lecture hours. 3 credits. Prerequisites: Mathematics 311 and Mathematics 415. • The solution of linear systems by direct and iterative methods, matrix inversion, the evaluation of determinants, and the calculation of eigenvalues and eigenvectors of matrices. Application to boundary value problems in ordinary differential equations. Introduction to the numerical solution of partial differential equations. Selected algorithms will be programmed for solution on computers.

Mathematics 417-418 Methods of Applied Mathematics Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Mathematics 301. • Vector analysis, matrices, complex analysis, special functions. Legendre and Hermite polynomials, Fourier series, Laplace transforms, integral equations, partial differential equation, boundary-value, and initial value problems.

Mathematics 491-492 Independent Study Either semester; 2-3-4 credits with a maximum total of 6 credits. Prerequisites: Junior or senior standing as a mathematics (or related science) major and approval of the supervising faculty member. • The student will submit a proposal for investigating some area or problem not contained in the regular curriculum. Approval by the departmental chairman is required. The results of the student's study will be presented in a report.

COURSES IN PHILOSOPHY

Philosophy 101-102 Introduction to Philosophy Continuous course; 3 lecture hours. 3-3 credits. • An introduction to the main branches and problems of philosophy. The first semester will emphasize logic, ethics, and cosmology. Works of significant philosophers will be read.

Philosophy 201, 202 History of Philosophy Semester courses; 3 lecture hours. 3, 3 credits. • A survey of the development of critical and speculative thought in the West from ancient beginnings to the present. First semester: Thales to Ockham; second semester: Descartes to the 20th century.

Philosophy 221 Informal Logic Semester course; 3 lecture hours. 3 credits. Prerequisite: consent of instructor. • The nature of sound reasoning, including a study of informal fallacies, stereotypic thinking; prejudices, the nature and function of language, definition and classification, and elementary scientific reasoning. Practical applications will be stressed, drawing upon contemporary materials.

Philosophy 222 Formal Logic Semester course; 3 lecture hours. 3 credits. Prerequisite: consent of instructor. • Introduction to formal deductive logic, including both the traditional theory of the syllogism and the basics of modern symbolic logic.

Philosophy 227 Introduction To Ethics Semester course; 3 lecture hours. 3 credits. No prerequisites. • A study of the major ethical systems in Western philosophy. Plato, Aristotle, Epicureanism, Stoicism, religious ethics, Kant, and Mill, among others, will be considered.

Philosophy 311 American Pragmatism Semester course; 3 lecture hours. 3 credits. Prerequisite: consent of instructor. • A critical examination of the major writings of C. S. Pierce, William James, and John Dewey.

Philosophy 319 Contemporary Philosophy Semester course; 3 lecture hours. 3 credits. Prerequisite: six hours in philosophy or consent of instructor. • A study of the philosophical thought of the 20th century, concentrating on the analytic movement characteristic of Anglo-American philosophy and significant individual thinkers who stand outside this movement. Includes readings from Moore, Russell, Wittgenstein, the logical positivists, ordinary language philosophers, Quine, Whitehead, Bergson, and Maritain.

Philosophy 321, 322 Aesthetics Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: sophomore standing. • A study of aesthetic experience, the concept of art, the sensuous, structural, and expressive aspects of arts of form, and the philosophical problems involved in aesthetic judgment. The second semester is devoted to the application of aesthetic theory to specific arts: the dance, architecture, painting, sculpture, music, poetry, etc.

Philosophy 323 Epistemology Semester course; 3 lecture hours. 3 credits. Prerequisite: six hours in philosophy or written consent of instructor. • An examination of the problems of knowledge, including theories of truth, knowledge of the external world and other minds, and the distinctions between knowledge and belief.

Philosophy 325 Metaphysics Semester course; 3 lecture hours. 3 credits. Prerequisite: six hours in philosophy or written consent of instructor. • A critical examination of man's attempt to understand the universe as a whole, including such issues as the mind-body problem, determinism, time, and the privacy of sensations.

Philosophy 326 Existentialism Semester course; 3 lecture hours. 3 credits. Prerequisite: Philosophy 101-102 or consent of instructor. • An examination of the nature of truth, freedom, responsibility, individuality, and interpersonal relations as found in some principal writings of Kierkegaard, Nietzsche, Jaspers, Sartre, Heidegger, Camus, Buber, Marcel.

Philosophy 327 Ethical Theory Semester course; 3 lecture hours. 3 credits. Prerequisite: Philosophy 227 or six hours of philosophy. • A study of the problems of philosophical ethics, including relativism, egoism, utilitarianism, intrinsic value, and the meaning and justification of ethical principles. Both historical and contemporary thinkers will be considered.

Philosophy 329 Business Ethics Semester course; 3 lecture hours. 3 credits. Prerequisite: consent of instructor. • A survey of the major ethical theories as they apply to business practices, including such topics as relationship of firms and employees, firms and other economic agents, firms and non-business groups, etc.

Philosophy 330 Advanced Logic Semester course; 3 lecture hours. 3 credits. Prerequisites: Philosophy 222, Mathematics 300, or written consent of instructor. • A thorough study of formal deduction as embodied in standard propositional and functional calculi. Course includes a treatment of the following topics: techniques for proving validity, truth functional analysis, quantification theory, relational arguments, and metalogic.

Philosophy 331 Philosophy of Science Semester course; 3 lecture hours. 3 credits. Prerequisite: six hours of philosophy or Mathematics 103-104 or equivalent, or written consent of instructor. • An examination of the bases of scientific inquiry in both the natural and social sciences; including a study of such topics as hypothesis formation and testing, and the nature of scientific laws, theories, and explanations.

Philosophy 335 Social and Political Philosophy Semester course; 3 lecture hours. 3 credits. Prerequisite: Philosophy 102, 227, or 327, or written consent of instructor. • A critical examination of political power and of the relationship between the individual and his society.

Philosophy 430 Philosophy of Religion Semester course; 3 lecture hours. 3 credits. Prerequisite: Philosophy 101-102, or 201-202, or consent of instructor. • An introduction to the major problems and questions of religion and reason. Special reference will be made to the nature of God, the nature of man, the problem of evil, the source of good, immortality, and the basis of authority.

Philosophy 490, 491 Topical Seminar Semester courses; 3 lecture hours. 3 credits. Prerequisite: written consent of instructor. • An in-depth study of an individual philosopher, a particular philosophical problem or a narrowly defined period or school.

COURSES IN PHYSICS

Physics 101 Physical Aspects of Urban and Environmental Problems 2 lecture hours and 1 recitation hour per week. 3 credits. Prerequisite: satisfactory score on the Mathematics Placement Test. • Man and his physical environment; a semi-quantitative study of man's physical needs for energy and mobility and the urban and environmental problems associated with these requirements.

Physics R103 Introductory Physics for Radiology Second semester; 3 lecture hours. 3 credits. • Properties of matter and basic principles of mechanics, electricity, and magnetism. (For radiologic technology students only.)

Physics 105-106 General Physics Year course; 3 lecture and 3 laboratory hours each semester. 8 credits. Corequisite: Mathematics 101. • First semester: basic concepts of motion, force, energy, matter, waves, and heat. Second semester: basic concepts of electricity, magnetism, light, and modern physics. A terminal course not accepted as a prerequisite for advanced physics courses.

Physics 207 University Physics I Semester course; 3 lecture and 3 laboratory hours. 4 credits. Corequisite: Mathematics 200. • A vector- and calculus-based introduction to the fundamental concepts of mechanics and heat.

Physics 208 University Physics II Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: Physics 207 and Mathematics 200. • A vector- and calculus-based introduction to the fundamentals of waves, electricity, and magnetism.

Physics 301 Electricity and Magnetism Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 208 and Mathematics 201. • Electric fields and potential, dc and ac circuits, electromagnetic induction, resistance, capacitance, inductance, electric and magnetic properties of matter.

Physics 304 Classical Mechanics Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 207 and Mathematics 201. • Study of kinematics, statics, dynamics of particles and rigid bodies, wave motion.

Physics 305 Electronics Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: Physics 301 and Mathematics 201. • Conduction phenomena in metals, semiconductor electronics, microelectronic structures, characterization of diodes and transistors in terms of equivalent circuits, linear amplifiers, and switching characteristics of the transistor.

Physics 307 University Physics III Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: Physics 208 and Mathematics 200. • An introduction to geometrical and physical optics and modern physics.

Physics 308 Thermodynamics Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 207 and Mathematics 201. • The laws of thermodynamics and their application to the fundamental concepts of physics.

Physics 312 Intermediate Physics Laboratory Semester course; 6 laboratory hours. 2 credits. Corequisite: enrollment in physics course above 300.

Physics 402 Introduction to Quantum Mechanics Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 304 and Mathematics 301 (or consent of instructor). • An introduction to quantum mechanics through Schrodinger's equation and its solution for simple systems including the hydrogen atom, expectation values and eigenvalue equations, angular momentum operators, and matrix representation.

Physics 404 Atomic and Nuclear Physics Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 402 and Mathematics 301. • Atomic structure, one and multi-electron systems, x-rays, nuclear structure and decay processes, and elementary particles.

Physics 407 Theoretical Mechanics Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 304 and Mathematics 301. • An introduction to advanced dynamics involving the Lagrangian and Hamiltonian canonical equations.

Physics 408 Electromagnetic Theory Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 301 and Mathematics 301. • Electric and magnetic fields and potentials, electromagnetic induction, Maxwell's equations, electromagnetic waves.

Physics 410 Introduction to Solid State Physics Semester course; 3 lecture hours. 3 credits. Prerequisites: Physics 301 and 304 and Mathematics 301. • An introduction to the physics of atoms and molecules in the solid phase; the mechanical, thermal, electrical, and magnetic properties of solids; the electron theory of metals.

Physics 411, 412 Advanced Physics Laboratory Semester course; 3 laboratory hours. 1 credit each semester. Prerequisite: Physics 312.

COURSES IN PHYSICAL SCIENCE

Physical Science 201 Elementary Astronomy Semester course; 3 lecture hours. 3 credits. • A descriptive approach to astronomy dealing with basic features of our solar system, our galaxy, and the universe.

Physical Science 206 Survey of Physical Science Semester course; 3 lecture hours. 3 credits. • Selected topics from physical science with demonstrations and discussions of the methods of classroom presentation. Terminal course for teachers.

Physical Science 307 Introduction to Material Science Semester course; 3 lecture hours. 3 credits. Prerequisites: General Chemistry and General Physics. • A basic course in the relation of physical and mechanical properties of materials to their structure and environment. Includes introductions to crystallography, physical metallurgy, and ceramics with emphasis on materials in industrial applications.

Physical Science 308 Physical Metallurgy Semester course; 3 lecture hours. 3 credits. Prerequisite: Physical Science 307. • A course in principles of physical metallurgy investigating the origins of the structure and physical properties of metals and alloys. Contents include the metallic state, equilibrium diagrams, diffusion defects, physical properties, elastic and plastic deformations, and mechanical properties.

COURSES IN POLITICAL SCIENCE

Political Science 201, 202 American Government Semester courses; 3 lecture hours. 3, 3 credits. • A study of the American system of government, including the organization and functioning of national, state, and local government in the United States. First semester: Essentials of American Government; Federal institutions. Second semester: Federal powers and functions; state and local governments.

Political Science 301 American Parties and Politics First semester; 3 lecture hours. 3 credits. • A study of the historical development, organization, and methods of political parties in the United States.

Political Science 305, 306 History of Political Thought Semester course; 3 lecture hours. 3, 3 credits. • A survey of political thought from the time of Plato to the present. First semester: Leading political ideas of the ancient and medieval periods. Second semester: Modern and contemporary thought.

Political Science 307 International Organizations and Institutions Semester course; 3 lecture hours. 3 credits. • The structure and operation of such organizations and regional institutions as the United Nations, the European Economic Community, the Organization for Economic Cooperation and Development, the Organization of American States, the Central American Common Market, the Latin American Free Trade Association, the North Atlantic Treaty Organization, and the Southeast Asia Treaty Organization.

Political Science 309 American Foreign Policy Semester course; 3 lecture hours. 3 credits. • An analytical survey of processes and practices in the formation of United States foreign policy, including an introduction to the goals, problems of implementation, and current challenges faced by policy-makers.

Political Science 314 American Constitutional Law Semester course; 3 lecture hours. 3 credits. • A survey of the development of the Constitution through judicial interpretation. Supreme Court decisions dealing with federalism, the powers of Congress and the President, civil liberties, and civil rights will be analyzed.

Political Science 315 Communism: Theory and Practice Second semester; 3 lecture hours. 3 credits. • A study of the growth of communism and its approach to economic and social problems. A critical analysis will be given to the use of this theory and practice for world domination.

Political Science 321 Municipal Government and Administration First semester; 3 lecture hours. 3 credits. • A study of the development, organization, and administration of cities in the United States. Special attention will be given to the problems and prospects of municipal government in Richmond and Virginia.

Political Science 322 State and Local Government in the United States Second semester; 3 lecture hours. 3 credits. • A study of the organization, problems, and politics of government and administration of the 50 states and their cities, counties, towns, and metropolitan areas, with special emphasis on the Virginia state and local government experience.

Political Science 324 Public Personnel Administration Semester course; 3 lecture hours. 3 credits. • An analysis of personnel management in government. Recruitment and selection, job and salary classification, work standards and training, and relations of public personnel to the executive and legislative branches of government will be included among the topics to be discussed.

Political Science 326 Contemporary Urban Problems Semester course; 3 lecture hours. 3 credits. • A study of urban affairs with particular reference to complex urban problems. An inventory will be made of contemporary urban problems and of devices for dealing effectively with them. Special attention will be given to new concepts, such as multi-jurisdictional planning.

Political Science 327 Seminar in Urban Problems and Solutions Semester course; 3 lecture hours. 3 credits. Prerequisite: Political Science 326 and/or consent of the instructor. • A continuation of Political Science 326 with emphasis upon possible solutions to the problems of urban communities.

Political Science 330 Water Resources Problems Semester course; 3 lecture hours. 3 credits. • A review of the general technical and philosophical factors involved in the regulation of the quantity and quality of water with special reference to the evaluation of problems in the James River Basin.

Political Science 351 Government and Politics of Southeast Asia Semester course; 3 lecture hours. 3 credits. • A survey of the political problems growing out of colonialism, underdevelopment, nationalism, and big power struggles.

Political Science 402 Public Administration Second semester; 3 lecture hours. 3 credits. • A study of the concepts and practices of public administration in the United States. Particular attention will be given to the administrative procedures and practices of the national government and the government of Virginia.

Political Science 403 Principles and Practices of International Relations Semester course; 3 lecture hours. 3 credits. • A survey of world affairs with particular attention to economic resources, political diplomacy, power politics, and other tools of international relations.

Political Science 411, 412 Comparative Government Semester courses; 3 lecture hours. 3, 3 credits. • A comparative study of contemporary political systems, including some of the advanced democracies and emerging new

nations. Emphasis will be given to patterns of political stability and adaptation to cultural, social, and economic change. First semester: A comparative study of the parallel development of parliamentary institutions in England, France, and Germany. Second semester: Political institutions in Indonesia, Malaysia, and the Philippines.

Political Science 413 International Relations: 1870-1914 Semester course; 3 lecture hours. 3 credits. • A study of international relations from the time of the unification of Germany and Italy to the outbreak of World War I. Full consideration will be given to international economics and colonial affairs.

Political Science 452 Legal Rights and Responsibilities Semester course; 3 lecture hours. 3 credits. • A general survey of the most common legal problems facing the average citizen to aid in understanding basic fundamentals of law affecting private activities. Content to be designed to meet the interests of the class and cover such topics as wills, personal liability, real property law, and legal protection of ideas, writings, and art.

COURSES IN PSYCHOLOGY

Psychology 201 General Psychology Both semesters; 3 lecture hours. 3 credits. • A prerequisite for upper-level work in the field of psychology. A survey of the basic principles, methods of investigation, and fields of study and application.

Psychology 202 General Psychology Both semesters; 3 lecture hours. 3 credits. • An evolutionary approach to the cultural and social determinants of human behavior along with the development of personality variance.

Psychology 211 Introduction to Statistics Either semester; 2 lecture and 2 laboratory hours. • Frequency distributions, measures of central tendency and variability; sampling, probability, correlation, and significance tests as applied to psychological data.

Psychology 201 is a prerequisite for the following courses

Psychology 301 Child Psychology First semester; 3 lecture hours. 3 credits. • A study is made of the growth and development of the child until puberty. Child-life is viewed in terms of physical, mental, social, emotional, and educational factors.

Psychology 302 Psychology of Adolescence Second semester; 3 lecture hours. 3 credits. • A study of mental, moral, social, and physical development from puberty to maturity viewed as in child psychology. Designed for secondary school teachers, youth leaders, and professional psychologists.

Psychology 303 Mental Hygiene Both semesters; 2 lecture hours. 3 credits. • A survey of those factors which facilitate the efficient and happy functioning of the individual. Pathological factors will be studied to some extent, in an effort to point ways of avoiding them.

Psychology 304 Developmental Psychology Both semesters; 3 lecture hours. 3 credits. • A survey course covering the years from birth throughout the life span. Discusses the cultural, social, and biological factors in the development of normal maturation. Covers recent advances in behavior theory as well as advances in ego psychology.

Psychology 305 Educational Psychology Both semesters; 3 lecture hours. 3 credits. • The application of psychological principles to the teaching-learning process, with special emphasis on theories of learning and development.

Psychology 310 Industrial Psychology First semester; 3 lecture hours. 3 credits. • Application of psychological principles and techniques to problems in personnel management and human engineering; recruitment, selection, training, and placement in industry; criteria in testing and test development; morale evaluation and improvement, employee counseling; worker-management communications; human engineering in equipment design, quality control, working conditions, and safety.

Psychology 317-318 Experimental Psychology Year course; 2 lecture hours and 2 laboratory hours per semester. 6 credits. Prerequisite: Psychology 211 or equivalent may be taken concurrently. • An introduction to experimental procedures and laboratory techniques in psychology; demonstrations and experiments concerning sensation, perception, learning, emotion, motivation.

Psychology 321 Social Psychology Second semester; 3 lecture hours. 3 credits. • Effects of modern society upon personality developments; individual behavior in a group context; basic principles governing human interactions. Within the boundaries of social psychology, the course integrates findings in anthropology, sociology, psychology, and psychiatry.

Psychology 322 Personality and Behavior of the Afro-American Semester course; 3 lecture hours. 3 credits. Prerequisite: Psychology 201. • A study of personality factors such as motivation, ego-functioning, and the socialization processes, with special emphasis on living conditions of Afro-Americans. (Same as Afro-American Studies 300.)

Psychology 324 Psychology of Advertising First semester; 3 lecture hours. 3 credits. • Psychological factors involved in determining attention, attitudes, and suggestibility as related to consumer preferences and purchasing habits; the role of advertising in influencing consumer behavior.

Psychology 401-402 Physiological Psychology Continuous course; 3 lecture hours. 3-3 credits. • Data from the fields of anatomy and physiology are presented, and their implications for psychology are discussed. The central nervous system; internal environment; vision; audition; reflexes; emotion; learning; behavior disorders and their physiological components. Behavior of human organism is studied from the psycho-physiological point of view.

Psychology 406 Perception Second semester; 3 lecture hours. 3 credits. • Historical development of perceptual problems in psychology. A survey of early and contemporary major perceptual theories and related research with major emphasis on visual perception.

Psychology 407 Psychology of the Abnormal Both semesters; 3 lecture hours. 3 credits. • Development of personality is discussed, with emphasis on factors leading to maladjustment. Lectures and readings cover the symptom groups of emotional disorders of both psychological and organic origin. Methods of assessing and treating these disorders are surveyed.

Psychology 409 Psychology of Personality First semester; 3 lecture hours. 3 credits. • Contributions of psychology to study and understanding of human personality; meaning and application of different concepts in description of personality dynamics; an anthropological analysis of man, his basic emotions, their relationships and their meaning; sources of personality formation; evaluation of current personality theories.

Psychology 410 Principles of Learning Second semester; 3 lecture hours. 3 credits. • A course involving principles of learning as they apply to reinforcement, extinction, motivation, emotion, problem-solving, etc., with emphasis on experimental findings. Major theoretical approaches will be examined.

Psychology 411 Survey of Psychological Tests Both semesters; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Psychology 211. • A survey of commonly used group tests; testing procedures and rationale underlying these tests; tests of intelligence, aptitude, achievement, interest, and personality critically examined, procedures described for selecting and evaluating specific group tests in these areas.

Psychology 414 System and Theories in Psychology Second semester; 3 lecture hours. 3 credits. • A study of contemporary theories and systems of psychology. Recent schools of thought will be studied to show their influence on current theories.

Psychology 415 Comparative Psychology Second semester; 3 lecture hours. 3 credits. • Survey of methods and results of research on animal behavior. Evolution of behavior and intelligence, receptor control of behavior, and higher mental processes in animals.

Psychology 418 Experimental Psychology—General Methodology Second semester; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Psychology 211, or 317, or equivalent. • A continuation course for undergraduates and intensive introduction for graduates. A methodological approach, treating experimental procedure and statistical analysis in the context of general scientific method. Operational definition; analysis of the research situation; planning, execution, and analysis of experiments in selected areas of psychology.

Psychology 422 Techniques of Marketing and Attitude Surveys Second semester; 3 lecture hours. 3 credits. • Psychological techniques applied to the measurement and evaluation of attitudes and opinions of individuals and groups; voters, consumers, majorities and minorities, opinion surveys; development and use of questionnaires.

Psychology 424 Occupational Information and Job Analysis Both semesters; 3 lecture hours. 3 credits. • A survey of occupations and occupational information for guidance counselors and employment interviewers.

Application of the methods and techniques in making job analysis and procedures and methods of presenting occupational information through counseling.

Psychology 425 Field Work Both semesters; 1 full day. 3 credits. • The student is placed in an appropriate agency according to his field of interest (personnel, guidance, emotionally disturbed, etc.) where he works one full day a week under agency supervision.

Psychology 427 Psychology of the Handicapped First semester; 3 lecture hours. 3 credits. • A survey of the handicapped person, with a particular emphasis on the mentally retarded, crippled, cerebral palsied, and hard-of-hearing; extent and nature of the handicap; psychological and emotional aspects; education and treatment and rehabilitation.

Psychology 428 Mental Hygiene in the Classroom First semester; 3 lecture hours. 3 credits. • An analysis of common problems that occur in the elementary school class with a discussion of current theories of learning and psychoanalytic insights that tend to ameliorate such problems.

Psychology 429-430 Readings in Psychology Either semester by appointment. 1-2-3 credits. • The student undertakes a library research project which he performs with the assistance and supervision of one staff member. He is to write a paper and pass, at the end of the semester, an oral comprehensive examination before a committee consisting of three staff members. Only undergraduate seniors are given permission to take these courses.

Psychology 431 Industrial Safety Semester course; 3 lecture hours. 3 credits. • A comprehensive study of the principles and methods for the control and prevention of accidents adapted to the need of business and industry.

Psychology 440 Vocational and Educational Guidance Second semester; 3 lecture hours. 3 credits. • The principles and organization of guidance programs in high schools and colleges. The roles of aptitudes, interests, training, and abilities. Duties and qualifications of counselor.

Psychology 441 Selection and Classification Second semester; 3 lecture hours. 3 credits. • Study of principles of theory of psychological tests used in industry for selection and classification of personnel. Special emphasis on relationship between tests and criteria of job success. Other devices used for selection and classification such as interviews and personal history will also be covered.

Psychology 450 Psychology of the Mentally Retarded Second semester. 3 credits. • A detailed psychological analysis of problems involved in working with mentally retarded, including those related to the criteria of mental deficiency, classification and diagnosis, psychological testing, causal factors, training and education, interpreting mental deficiency to parents, institutionalization, and professional training for workers in the area.

Psychology 451 History of Psychology Second semester; 3 lecture hours. 3 credits. • Historical data of the development of psychology from the

ancient Grecian period until the present time, presented in the form of history of ideas and theories; leading personalities in psychology throughout history and their contributions described.

COURSES IN RELIGIOUS STUDIES

Religious Studies 211 Christian Ethics Semester course; 3 lecture hours. 3 credits. • A historical and systematic consideration of ethical norms and their application to current problems.

Religious Studies 301 Introduction to the Old Testament Semester course; 3 lecture hours. 3 credits. • A survey of the Old Testament from its beginning through the post-Exile period. Emphasis given to the literary and historical development of the text.

Religious Studies 302 Introduction to the New Testament Semester course; 3 lecture hours. 3 credits. Prerequisite: Consent of the instructor. • A survey of the New Testament with particular emphasis given to the historical development of the Canon.

Religious Studies 303 Introduction to the Apocrypha Semester course; 3 lecture hours. 3 credits. Prerequisite: Religious Studies 301-302 or consent of instructor. • A course designed to acquaint the student with Hebrew-Christian writings associated with the late Old Testament and early New Testament period. The general problem concerning the **Pseudepigrapha** is also considered in this course.

Religious Studies 304 Historical Development of Judaic Thought Semester course; 3 lecture hours. 3 credits. Prerequisite: Religious Studies 301 or consent of instructor. • A general survey of the dynamics and characteristic patterns of Judaic thought from earliest times to the present.

Religious Studies 305 The Old Testament Prophets Semester course; 3 lecture hours. 3 credits. Prerequisite: Religious Studies 301 or consent of the instructor. • A study of the literature of the Old Testament prophets and their contributions to religion.

Religious Studies 313 Life and Literature of Paul Semester course; 3 lecture hours. 3 credits. Prerequisite: Religious Studies 302 or consent of instructor. • A survey of the life and literature of Paul as given in Acts and the Epistles, involving special consideration of Paul's contribution to the expansion of Christianity.

Religious Studies 315 Israel and the Ancient Near East Semester course; 3 lecture hours. 3 credits. Prerequisite: Religious Studies 301 or consent of instructor. • A comparative study of ancient Near Eastern political histories, cultures, and religions, with respect to their influence in Israelite customs and society. The latest archaeological and inscriptional evidence will be reviewed.

Religious Studies 321 Dead Sea Scrolls Semester course; 3 lecture hours. 3 credits. Prerequisite: Consent of instructor. • A survey of the major

manuscript discoveries from Qumran near the Dead Sea, some of the theories concerning them, and an examination of their significance for biblical scholarship.

Religious Studies 331, 332 Christianity and Culture Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: 6 hours of Religious Studies and/or consent of instructor. • A study of the interaction of Christianity and Western culture.

Religious Studies 361 The Bible as Literature Semester course; 3 lecture hours. 3 credits. Prerequisite: Consent of instructor. • Literary aspects of the Bible will be considered. Also attention will be given to the history of the English Bible. (Same as English 361.)

Religious Studies 401, 402 Religions of the World Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: Consent of instructor. • An investigation of the historical, cultural, and theological foundations and development of Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, Shintoism, Zoroastrianism, Islam, Judaism, Christianity, and some modern attempts at syncretism.

Religious Studies 403 History of Western Religion Semester course; 3 lecture hours. 3 credits. • A study of the development of religious thought and action in Western culture, including the Medieval, Reformation, Counter-Reformation, and Modern periods.

Religious Studies 405 Contemporary Problems in Christian Thinking Semester course; 3 lecture hours. 3 credits. Prerequisite: Consent of instructor. • Problems to be treated include the Christian understanding of history, the current ecumenical movement within the church, reinterpretation of traditional doctrines, and changes in ethical thinking and social involvement.

Religious Studies 490, 491 Topical Seminar Semester courses; 3 lecture hours. 3 credits. Prerequisite: written consent of instructor. • An in-depth study of selected ideas or concepts, religious thinkers, or significant movements in the field of religion.

COURSES IN RUSSIAN

Russian 101-102 Elementary Russian Year course; 3 lecture hours. 6 credits.

Russian 201-202 Intermediate Russian Year course; 3 lecture hours. 6 credits. Prerequisite: Russian 101-102 or 2 units of high school Russian. • Rapid review of the essentials of grammar; conversation, readings from Russian literature. (Students entering with more than two high school units in Russian will not receive credit for this course.)

Russian 301, 302 Survey of Literature Semester course; 3 lecture hours. 3, 3 credits. Conducted in Russian. Prerequisite: Russian 201-202 or the equivalent. • First semester: 19th century; Pushkin, Gogol, Turgenev. Second semester: Late 19th and 20th centuries, Tolstoy, Dostoyevski, Chekhov, and some modern Soviet writers.

Russian 307, 308 Russian Literature in English Translation. Semester course. 3 lecture hours. 3, 3 credits. • First semester: a survey of literature from the 11th century to the middle of the 19th century, with emphasis on Pushkin, Lermontov, Gogol, and Turgenev. Second semester: a survey of literature from the middle of the 19th century to the present. (This course will not satisfy foreign language requirements. No knowledge of Russian required.)

COURSES IN SOCIOLOGY

Sociology 101 General Sociology Both semesters; 3 lecture hours. 3 credits. • An introduction to the study of human society. The basic concepts of society, culture, and personality, and their relationships to each other are studied and then used to analyze the major social institutions. Social class, race, and social change are also included.

Sociology 102 Social Problems in the United States Both semesters; 3 lecture hours. 3 credits. • A sociological approach to selected contemporary social problems, including juvenile delinquency and crime, race relations, poverty, and others, through use of such analytical concepts as role, social class, and subculture.

Sociology 105 Sociology of Racism Semester course; 3 lecture hours. 3 credits. • The course will explore the direct and indirect ways in which racial attitudes are acquired, their effect on individuals and society, and the institutional and ideological manifestations of racism as a "faith system," as exploitation, and as a form of human conflict. The central focus of interest will be on black-white relationships. (Same as Afro-American Studies 102.)

Sociology 200 The Community Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • A comparative analysis of communities from different parts of the world.

Sociology 210 Collective Behavior Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • An analysis of non-institutional forms of behavior, including mobs, riots, and social movements.

Sociology 304 Sociology of the Family Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • The family in selected cultures; analysis of socialization and the parent-child relationship, courtship and marriage, family crises and problems, and the influence of social change on the family.

Sociology 315 Sociology of Education Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • Analysis of education as a social institution in the societal context. Cross-cultural comparative perspectives on education. Focus on the contemporary university as a social system, complex organization, socializing agent, etc.

Sociology 318 Social Thought Semester course; 3 lecture hours. 3 credits. Prerequisite: Upper-division standing and/or Sociology 101. • A review of major social thinkers, starting with classical Roman and Greek philosophers and ending with Auguste Comte.

Sociology 327 Urban Sociology Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • Origin, character, and significance of urban communities. Ecological and social factors are analyzed as well as changes in urban social organization and their consequences.

Sociology 331 Juvenile Delinquency Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • Analysis of the biological, cultural, psychological, and social factors involved in juvenile delinquency and their relation to current techniques of treatment, prevention, and control.

Sociology 352 Social and Cultural Change Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101 or Sociology 103. • An analysis of the process of social and cultural factors in relationship to specific reform, revolutionary, and expressive social movements.

Sociology 390-391 Junior Tutorial Continuous course. Maximum of 3 credits each semester. Written permission required from the chairman of the departmental committee on tutorials. • The tutorial is intended to go beyond existing courses to study theories and other specific problems in depth. Students also meet regularly in seminars with faculty.

Sociology 402 Sociological Theory Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • A study of the works of the major sociological theorists of the 20th century.

Sociology 403 Criminology Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • Analysis of the nature, extent, and distribution of crime emphasizing theories of and research on causation, prediction, and prevention.

Sociology 416 Statistics Semester course; 2 lecture and 2 laboratory hours. 3 credits. • An introduction to descriptive and inferential statistics for the behavioral sciences.

Sociology 420 Research Methods in the Social Sciences Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Sociology 416. • Current methods of research in sociology.

Sociology 421 Social Stratification Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • Analysis of class and caste systems and of social mobility.

Sociology 422 Minority Groups in the United States Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • A study of the various racial, religious, and ethnic minority groups. Accommodation and assimilation. Relation of subcultures to the dominant culture.

Sociology 426 Population Semester course. 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • The study of trends in fertility, mortality, population growth, distribution, migration, and composition. The mutual influence of these factors and social organization.

Sociology 428 Comparative Urban Systems Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 327. • Typologies of cities. Cross-cultural comparisons of social institutions in specifically urban forms and context, cross-cultural views, and experience of major urban problems.

Sociology 436 Industrial Sociology Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • The study of industrial plants and business organization as social systems.

Sociology 445 Medical Sociology Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 420 or permission of instructor. • A survey of the social, economic, cultural, and social psychological factors in health and illness; the sociology of health and medical care organizations and settings; the sociology of health occupations; and the techniques of research in medical sociology.

Sociology 446 Sociology of Mental Health and Illness 3 lecture hours. 3 credits. Prerequisite: Sociology 420 or permission of instructor. • A survey of selected social, economic, cultural, and social psychological factors in mental health and illness. Such problems as defining mental illness; social factors in the distribution, diagnosis, etiology, and treatment of mental disorders; mental illness as a social role; and research methods used in the sociology of mental illness will be considered.

Sociology 475 Social Organization Semester course; 3 lecture hours. 3 credits. Prerequisite: Sociology 101. • A survey of theory and research in social organization including the study of behavior in modern complex organizations, such as factories, commercial firms, hospitals, and schools. Formal and informal structures and organizational processes such as authority and decision-making, social control, communication, stratification, and organizational conflict and change will be examined from a sociological perspective.

Sociology 490-491 Senior Tutorial Continuous course. Maximum of 3 credits each semester. Written permission required from the chairman of the departmental committee on tutorials. • The tutorial is intended to go beyond existing courses to study theories and other specific problems in depth. Students also meet regularly in seminars with the faculty.

Sociology 499 Topical Seminar Semester course. A maximum of 6 credits. Prerequisite: permission of the instructor. • Seminar on current specialized areas of sociological interest.

COURSES IN SPANISH

Spanish 101-102 Elementary Spanish Year course; 5 lecture hours and 1 laboratory hour. 8 credits. • Elementary grammar, reading, oral drill. (Students entering with more than one high school unit in Spanish will not receive credit in this course.)

Spanish 201-202 Intermediate Spanish Year course; 3 lecture hours and 1 laboratory hour. 6 credits. Prerequisite: Spanish 101-102 or two units of high school Spanish. • Rapid review of the essentials of grammar; conversation in Spanish; readings from Spanish literature. (Students entering with more than two high school units in Spanish will not receive credit for this course.)

Spanish 301, 302 Survey of Literature Semester courses; 3 lecture hours. 3, 3 credits. Conducted in Spanish. Prerequisite: Spanish 201-202. • A survey of Spanish literature up to the present.

Spanish 303-304 Advanced Grammar and Translation Year course; 3 lecture hours. 6 credits. Prerequisite: Spanish 201-202 or the equivalent. • A systematic review of Spanish grammar with emphasis on the elements of style and vocabulary building; translation of English stylists.

Spanish 305 Conversation and Civilization Semester course; 3 lecture hours. 3 credits. Prerequisite: Spanish 201-202 or the equivalent. • Practice in the spoken language with emphasis on discussions dealing with Spanish and Latin-American civilization. Taught in Spanish.

Spanish 306 Spanish Linguistics Semester course; 3 lecture hours. 3 credits. Prerequisite: Spanish 201-202. • A study of Spanish phonetics with oral practice in pronunciation; an introduction to the history of the Spanish language, and a review of linguistic problems encountered in the teaching of Spanish.

Spanish 307, 308 Spanish Literature in English Translation Semester courses; 3, 3 lecture hours. 3, 3 credits. • First semester: a survey of the classic works of older Spanish literature, such as *The Cid*, *Don Quixote*,

The Three-Cornered Hat and *Don Juan*. Second semester: a study of the major works of the 19th and 20th centuries. (This course will not satisfy language requirements. No prerequisite.)

Spanish 311, 312 Introduction to Literature Semester course; 3, 3 lecture hours. 3, 3 credits. Prerequisite: Spanish 201-202 or the equivalent. • A reading course in Spanish literature with oral and written reports. Taught in Spanish. (This course will not be open to potential Spanish majors.)

Spanish 411 The Middle Ages Semester course; 3 lecture hours. 3 credits. Prerequisites: Spanish 301, 302. • Reading and discussion of such representative works as the following: *El Poema de Mio Cid* (anonymous); selections from the lyric poetry; selections from the works of Gonzalo de Berceo; *El Auto de los Reyes Magos*; *El Libro del Conde Lucanor*, Don Juan Manuel; *El Libro de Buen Amor*, Arcipreste de Hita. Taught in Spanish.

Spanish 413, 414 The Golden Age Semester courses; 3, 3 lecture hours. 3, 3 credits. Prerequisites: Spanish 301, 302. • A reading and discussion of some of the representative works of Cervantes, Lope de Vega, Tirso de Molina, Calderón, Alarcón, Góngora, and Garcilaso de la Vega. Taught in Spanish.

Spanish 415, 416 Spanish-American Literature Semester courses; 3, 3 lecture hours. 3, 3 credits. Prerequisites: Spanish 301, 302. • First semester: from discovery to independence. Second semester: from independence to the present. A survey of the literature of the Spanish-American republics. Taught in Spanish.

Spanish 417 Nineteenth-Century Literature Semester course; 3 lecture hours. 3 credits. Prerequisites: Spanish 301, 302. • A reading and discussion of representative works of Valera, Fernán Caballero, Pereda, Galdós, Clarín, Larra, Espronceda, Duque de Rivas, and Pardo Bazán. Taught in Spanish.

Spanish 420 The Twentieth Century Semester course; 3 lecture hours. 3 credits. Prerequisites: Spanish 301, 302. • Reading and discussion of representative works of Gervasio, Azorín, Unamuno, Baroja, Valle-Inclán, Pérez de Ayala, García Lorca, Sotela, Ortega, Gironella, Cela, Goytisolo, Laforet, and Matute. Taught in Spanish.

SCHOOL OF BUSINESS

J. CURTIS HALL, Dean

JOHN D. LAMBERT, Assistant Dean

The School of Business prepares students for work in the broad field of business. It combines sound programs in business administration with broad general education. The school offers degree programs in accounting, advertising, business administration, business education, information systems, economics, management, office administration, and retailing.

The major objective of the school is to prepare students for careers in business. The various curricula provide a broad foundation in the principles of business organization and management and at the same time allow a student to select certain courses that best fulfill his particular needs. All programs are such that students also may develop an understanding of the rights and responsibilities of democratic citizenship.

The School of Business also has these additional objectives:

1. To provide service courses to other schools on the campus.
2. To render service to the business community through short courses, management training programs, and special conferences.
3. To engage in and encourage research in the fields of business and economics.
4. To prepare students to enter graduate study.
5. To offer programs of graduate instruction in business and economics.

Candidates for degrees in the School of Business must complete the number of credits designated in the particular curriculum outlines that follow.

ACCOUNTING

MERVYN W. WINGFIELD, Chairman of the Department

Larry P. Bailey / Sanford L. Boswell / Edward N. Coffman / Larry D. Fetzner
 Charles E. Fletcher / B. Roland Freasier, Jr. / H. Wayne Hudgins
 Donald E. Kuhns / Richard A. Scott / James M. Todd / Jackie G. Williams
 H. David Willis

The accounting curriculum is designed to prepare students for careers in such fields as industrial, governmental, and public accounting. It also prepares graduates for executive positions in government and industry. The program is designed so that the student begins his work in accounting immediately upon his admission to the University. Graduates are eligible for the CPA examination in Virginia.

Curriculum in Accounting

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Business 101-102. Decision Mathematics	3	3
Business 203-204. Principles of Accounting	3	3
English 101-102. Composition and Literature	3	3
Psychology 201. General Psychology	—	3
Sociology 101. General Sociology		
or		
Business 121. Introduction to Business	3	—
Speech 121. Effective Speech	3	—
Elective (Non-Business)	—	3
Physical Education	1	1
	<hr/> 16	<hr/> 16
<i>Second Year</i>		
Business 232. Principles of Management	—	3
Business 272. Principles of Marketing	3	—
Business 303-304. Intermediate Accounting	3	3
Economics 201-202. Principles of Economics	3	3
English 201 or 203 or 205		
and		
English 202 or 204 or 206	3	3
History or Political Science (Year course)	3	3
Physical Education	1	1
	<hr/> 16	<hr/> 16

Credits
1st 2nd
Sem. Sem.

Third Year

Business 301. Business Statistics	3	—
Business 412. Statistical Method	—	3
Business 323-324. Business Law	3	3
Business 360. Information Systems Concepts or		
Business 361. Computational Programming or		
Business 467. COBOL Programming	3	—
Business 401-402. Cost Accounting	3	3
Business 403-404. Advanced Accounting	3	3
Business 460. Data Processing Systems and Methods	—	3
Economics 307. Money and Banking	—	3
	15	18

Fourth Year

Business 405. Tax Accounting	3	—
Business 406. Auditing	—	3
Business 411. Financial Management	3	—
Economics 421. Government and Business	3	—
Electives	6	9
Elective (Accounting)	—	3
	15	15

ADVERTISING

JAMES R. LOONEY, Acting Chairman of the Department

John M. Callahan / Stephen R. Martin

The department offers a four-year program leading to a Bachelor of Science degree in Advertising. It is presented for students preparing for careers in advertising departments of manufacturers and retailers, advertising agencies, advertising media, and advertising service organizations. The program combines general education courses, professional courses in advertising and distribution, and selected courses in journalism and business.

As an integral part of the curriculum, specialized courses in advertising are offered by the department in cooperation with the leading advertisers, advertising agencies, newspapers, radio and television stations, and other advertising service organizations in Richmond.

Curriculum in Advertising

Credits
1st 2nd
Sem. Sem.

First Year

Advertising 101. Principles of Advertising	3	—
Art Education 121-122. Principles of Art	2	2
Business 101-102. Decision Mathematics	3	3
English 101-102. Composition and Literature	3	3
Journalism 101. Mass Communications	—	3
Electives	3	3
Physical Education	1	1
	<hr/> 15	<hr/> 15

Second Year

Advertising 201. Advertising Media	3	—
Advertising 202. Advertising Communication	—	3
Business 232. Principles of Management	—	3
Business 272. Principles of Marketing	3	—
Economics 201-202. Principles of Economics	3	3
English 201 or 203 or 205 and English 202 or 204 or 206	3	3
Electives	3	3
Physical Education	1	1
	<hr/> 16	<hr/> 16

Third Year

Advertising 301. Consumer Behavior	3	—
Advertising 303. Creative Strategy	3	—
Advertising 304. Media Strategy	—	3
Business 203-204. Principles of Accounting	3	3
Business 301. Business Statistics	—	3
Business or Economics Electives (300-400)	3	—
History, Political Science, Psychology, Sociology Electives ..	3	3
Electives (300-400)	3	3
	<hr/> 18	<hr/> 15

Credits
1st 2nd
Sem. Sem.

Fourth Year

Advertising 401-402. Advertising Campaigns	3	3
Advertising 403. Advertising Management	3	—
Advertising 404. Current Advertising Analysis	—	3
Business 474. Marketing Research	3	—
Business		
or		
Economics Electives (300-400)	3	3
Electives (300-400)	3	6
	15	15

BUSINESS ADMINISTRATION AND MANAGEMENT

RUSSELL A. JOHNSTON, Chairman of the Department

EUGENE H. HUNT, Assistant Chairman

Moustafa H. Abdelsamad / John A. Bachmann / Narendra Bhandari
 Richard O. Blalack / Darrel R. Brown / Colin Bushway / Herbert J. Davis
 Guy J. De Genaro / James W. Duff / Francis T. Eck / David R. Falke
 Jerry T. Ferguson / Lawrence K. Finley / Frederick C. Haas / G. Blair Harry
 Thomas J. Maronick / Thomas A. McKee / Alexander C. Murrelle
 Charles A. Nickerson / R. Clifton Poole / S. Travis Pritchett
 George W. Rimler / Neale M. Robertson / Robert N. Sheffield
 Michael A. Spinelli / Branch K. Sternal / Jack E. Thornton
 Paul M. Umberger / Carl G. K. Weaver / D. Robley Wood, Jr.
 Edward M. Wood, Jr.

Curriculum in Business Administration

The major in business administration is intended for those who want a broad education in business but with little concentration in a single business field. The requirements for the first two years of this program are the same as for the major in management.

Credits
1st 2nd
Sem. Sem.

First Year

Business 101-102. Decision Mathematics	3	3
English 101-102. Composition and Literature	3	3
History		
or		
Political Science (Year course)	3	3

Credits
1st 2nd
Sem. Sem.

Sociology 101. General Sociology

or

Business 121. Introduction to Business	3	—
Speech 121. Effective Speech	—	3
Electives (Non-Business)	3	3
Physical Education	1	1
	16	16

Second Year

Business 203-204. Principles of Accounting	3	3
Business 232. Principles of Management	—	3
Economics 201-202. Principles of Economics	3	3
English 201 or 203 or 205		
and		
English 202 or 204 or 206	3	3
Psychology 201. General Psychology	3	—
Approved Electives	3	3
Physical Education	1	1
	16	16

Third Year

Business 272. Principles of Marketing	3	—
Business 301. Business Statistics	—	3
Business 323-324. Business Law	3	3
Business 325. Business Writing	3	—
Business 331. Personnel Management	3	—
Business 333. Risk and Insurance	—	3
Business 360. Information Systems Concepts		
or		
Business 361. Computational Programming		
or		
Business 467. COBOL Programming	—	3
Economics 305. Public Finance-State and Local		
or		
Economics 306. Public Finance-Federal	3	—
Economics 307. Money and Banking	—	3
	15	15

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>Fourth Year</i>		
Business 411. Financial Management	3	—
Business 412. Statistical Method	3	—
Business 415. Investments	—	3
Business 422. Real Estate	—	3
Business 487. Quantitative Management Methods	—	2
Economics 402. Business Cycles and Forecasting	—	3
Economics 421. Government and Business	3	—
Economics 431. Labor Economics	3	—
Electives (300-400)	3	6
	<hr/> 15	<hr/> 17

Curriculum in Management

This program is intended for students interested in the following areas of management in business and industry: industrial management, administrative management, and personnel management. The requirements for the first two years of the program are the same as those for the major in business administration.

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Business 101-102. Decision Mathematics	3	3
English 101-102. Composition and Literature	3	3
History		
or		
Political Science (Year course)	3	3
Sociology 101. General Sociology		
or		
Business 121. Introduction to Business	3	—
Speech 121. Effective Speech	—	3
Electives (Non-Business)	3	3
Physical Education	1	1
	<hr/> 16	<hr/> 16

Second Year

Business 203-204. Principles of Accounting	3	3
Business 232. Principles of Management	—	3
Economics 201-202. Principles of Economics	3	3

Credits
1st 2nd
Sem. Sem.

English 201 or 203 or 205
 and

English 202 or 204 or 206	3	3
Psychology 201. General Psychology	3	—
Approved Electives	3	3
Physical Education	1	1
	<hr/>	<hr/>
	16	16

Third Year

Business 272. Principles of Marketing	3	—
Business 301. Business Statistics	—	3
Business 323-324. Business Law	3	3
Business 325. Business Writing	—	3
Business 331. Personnel Management	3	—
Business 360. Information Systems Concepts or		
Business 361. Computational Programming or		
Business 467. COBOL Programming	—	3
Business 413. Managerial Accounting	3	—
Psychology 310. Industrial Psychology	3	—
Elective (300-400)	—	3
	<hr/>	<hr/>
	15	15

Fourth Year

Business 411. Financial Management	—	3
Business 412. Statistical Method	3	—
Business 432. Industrial Management	—	3
Business 435. Seminar in Personnel Management	3	—
Business 487. Quantitative Management Methods	—	2
Business 499. Management Seminar	—	3
Economics 307. Money and Banking	3	—
Economics 421. Government and Business	3	—
Economics 431. Labor Economics	3	—
Approved Electives (300-400)	—	6
	<hr/>	<hr/>
	15	17

BUSINESS EDUCATION AND OFFICE ADMINISTRATION

W. L. TUCKER, Chairman of the Department

Myrna H. Childress / Jo Ann Ellis / Dorothy E. Lee / Robert P. Miller
 Mosetta P. Sykes / Elizabeth I. Walls / Jane D. Williams
 Millicent J. Williams

The programs in business education are designed for young men and women who desire careers in teaching business subjects on the junior high school, the senior high school, or the college level.

The four-year program in business education includes 48 semester credits of general education required of all teachers certified by the State of Virginia. See the requirements from the School of Education for a listing of these credits.

Endorsements to teach may be earned in selected areas of business education by completing 45 semester hours as follows:

Area A: General Office Procedures	45 credits
(Endorsed to teach basic business, bookkeeping, office procedures, and typewriting.)	
Area B: Stenography	45 credits
(Endorsed to teach basic business, office procedures, recordkeeping, shorthand, and typewriting.)	
Area C: Bookkeeping-Data Processing	45 credits
(Endorsed to teach basic business, bookkeeping and accounting, data processing, and office procedures.)	

Separate Subject Endorsement: Endorsement in specific subject areas may be earned by completing the number of credits indicated:

Basic Business	12 credits
Bookkeeping and Accounting	12 credits
Data Processing	12 credits
Shorthand (9 hours) and Typewriting (6 hours)	15 credits ¹
Office Systems and Procedures	12 credits

Candidates who wish to be endorsed in a limited area may substitute approved electives to complete the degree program.

State scholarships are available for those who will teach at least one year in the public schools of Virginia.

Placement Tests: Some incoming students must take departmental placement tests as required by their programs of study. Placement tests in shorthand and typewriting may be required of secretarial administration and business education students who have had previous training. These tests must be taken at the beginning of the semester in which the student enters the University and on the date announced during the registration period. Tests will not be given at any other time.

¹ Requirement may be reduced if the student is exempted from one or more courses by virtue of prior training.

Curriculum in Business Education**Area A: General Office Procedures**

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology (or other laboratory science)	4	4
Business 101-102. Decision Mathematics	3	3
Business 121. Introduction to Business	3	—
Business 145. Beginning Typewriting ²	—	3
English 101-102. Composition and Literature	3	3
History 201-202. American History	3	3
Physical Education	1	—
	17	16
<i>Second Year</i>		
Business 203-204. Principles of Accounting	3	3
Business 232. Principles of Management	3	—
Business 245. Intermediate Typewriting	3	—
Business 345. Advanced Typewriting	—	3
Business 360. Information Systems Concepts	—	3
Economics 201-202. Principles of Economics	3	3
English 201-202. Western World Literature	3	3
Approved Elective	—	3
	15	18
<i>Third Year</i>		
Accounting	3	3
Business 323-324. Business Law	3	3
Business 343. Office Machines	3	—
Business 349. Office Procedures	—	3
Business 353. Introduction to Business Teaching	3	—
Business 453. Teaching Bookkeeping and Basic Business ..	3	—
Psychology 201. General Psychology	—	3
Approved Elective	—	3
	15	15
<i>Fourth Year</i>		
		A B
Business 325. Business Writing	3	— —
Business 438. Office Management	3	— —
Education 486. Supervised Teaching—Secondary ³	—	6 —
Health Education 385. School and Community Hygiene	—	— 3
Psychology 305. Educational Psychology	—	— 3
Speech 308. Speech for Teachers	3	— —
Approved Electives	6	— 3
	15	15

² Required only of those who fail to pass the typewriting placement test.³ Education 486 may be taken during the first 8 weeks (Column "A") of either semester of the final year.

Curriculum in Business Education**Area B: Stenography**

Credits
1st 2nd
Sem. Sem.

First Year (Same as Area A on page 186)

Second Year

Business 203-204. Principles of Accounting	3	3
Business 241-242. Beginning and Intermediate Shorthand ..	3	3
Business 245. Intermediate Typewriting	3	—
Business 345. Advanced Typewriting	—	3
Economics 201-202. Principles of Economics	3	3
English 201-202. Western World Literature	3	3
Approved Elective	—	3
	15	18

Third Year

Business 232. Principles of Management	3	—
Business 323-324. Business Law	3	3
Business 341. Advanced Shorthand and Transcription	3	—
Business 343. Office Machines	—	3
Business 349. Office Procedures	3	—
Business 353. Introduction to Business Teaching	3	—
Business 360. Information Systems Concepts	—	3
Business 455. Teaching Secretarial Subjects	—	3
Psychology 201. General Psychology	—	3
	15	15
		A B

Fourth Year

Business 325. Business Writing	3	—	—
Education 486. Supervised Teaching—Secondary ⁴	—	6	—
Health Education 385. School and Community Hygiene	—	—	3
Psychology 305. Educational Psychology	—	—	3
Speech 308. Speech for Teachers	3	—	—
Approved Electives	9	—	3
	15	15	

⁴ Education 486 may be taken during the first eight weeks (Column "A") of either semester of the final year.

Curriculum in Business Education**Area C: Bookkeeping and Data Processing**

Credits
1st 2nd
Sem. Sem.

First Year (Same as Area A on page 186)

Second Year

Business 203-204. Principles of Accounting	3	3
Business 232. Principles of Management	3	—
Business 360. Information Systems Concepts	—	3
Economics 201-202. Principles of Economics	3	3
English 201-202. Western World Literature	3	3
Electives	3	3
	<hr/>	<hr/>
	15	15

Third Year

Business 301. Business Statistics	3	—	
Accounting	3	3	
Business 323-324. Business Law	3	3	
Business 343. Office Machines	—	3	
Business 353. Introduction to Business Teaching	3	—	
Business 453. Teaching Bookkeeping and Basic Business ..	—	3	
Business 461-462. Unit Record Equipment	3	3	
Psychology 201. General Psychology	—	3	
	<hr/>	<hr/>	
	15	18	
		A	B

Fourth Year

Business 325. Business Writing	3	—	—
Business 438. Office Management	3	—	—
Business 463. Computer Programming	3	—	—
Education 486. Supervised Teaching—Secondary ^s	—	6	—
Health Education 385. School and Community Hygiene	—	—	3
Psychology 305. Educational Psychology	—	—	3
Speech 308. Speech for Teachers	—	—	3
Approved Electives	6	—	—
	<hr/>	<hr/>	
	15	15	

^s Education 486 may be taken during the first eight weeks (Column "A") of either semester of the final year.

Curriculum in Office Administration

In planning the curricula in office administration, recognition has been given to the fact that secretaries need a broad background in business that encompasses more than shorthand and typewriting skills. In the programs offered in this department, provision is made for students to prepare for the professional positions held by top-level secretaries. The courses offered form a foundation for those who, after the requisite experience, plan to take the Certified Professional Secretary Examination. The following program leads to the Bachelor of Science degree.

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Business 101-102. Decision Mathematics	3	3
Business 121. Introduction to Business	—	3
Business 145-245. Beginning and Intermediate Typewriting	3	3
English 101-102. Composition and Literature	3	3
History 201-202. American History		
or		
European History	3	3
Speech 121. Effective Speech	3	—
Physical Education	1	1
	16	16
<i>Second Year</i>		
Business 203-204. Principles of Accounting	3	3
Business 241-242. Beginning and Intermediate Shorthand ..	3	3
Business 345. Advanced Typewriting	3	—
Economics 201-202. Principles of Economics	3	3
English 201-202. Western World Literature		
or		
English 203-204. English Literature	3	3
Psychology 201. General Psychology	—	3
	15	15
<i>Third Year</i>		
Business 232. Principles of Management	3	—
Business 323-324. Business Law	3	3
Business 325. Business Writing	3	—
Business 341. Advanced Shorthand	3	—
Business 343. Office Machines	—	3
Laboratory Science	4	4
Sociology 201. General Sociology	—	3
Approved Elective	—	3
	16	16

		Credits	
		1st Sem.	2nd Sem.
<i>Fourth Year</i>			
Business 301.	Business Statistics	3	—
Business 349.	Office Procedures	—	3
Business 360.	Information Systems Concepts	3	—
Business 438.	Office Management	3	—
Economics 307.	Money and Banking	3	—
Elective in Business or Economics (upper level)		—	3
Approved Electives (upper level)		3	9
		15	15

Curriculum in General Secretarial

This two-year program, leading to an Associate in Science degree, is designed to prepare students for secretarial positions in business.

		Credits	
		1st Sem.	2nd Sem.
<i>First Year</i>			
Business 101.	Decision Mathematics	3	—
Business 121.	Introduction to Business	3	—
Business 145-245.	Beginning and Intermediate Typewriting ^a	3	3
Business 203.	Principles of Accounting	—	3
Business 241-242.	Beginning and Intermediate Shorthand ^a ..	3	3
English 101-102.	Composition and Literature	3	3
Speech 121.	Effective Speech	—	3
		15	15

Second Year

Business 323.	Business Law	3	—
Business 325.	Business Writing	—	3
Business 341.	Advanced Shorthand	—	3
Business 343.	Office Machines	3	—
Business 345.	Advanced Typewriting	3	—
Business 349.	Office Procedures	—	3
Economics 201-202.	Principles of Economics	3	3
Psychology 201.	General Psychology	3	—
Elective		—	3
		15	15

^a If a student passes the typewriting and shorthand placement tests, he should select from the following electives: Business 102, 204, 232, 272, 324, and 438.

Curriculum in Legal Secretarial

This two-year program, leading to an Associate in Science degree, is designed to prepare students for secretarial positions in law offices, both public and private.

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Business 101. Decision Mathematics	3	—
Business 121. Introduction to Business	3	—
Business 145-245. Beginning and Intermediate Typewriting [†] ..	3	3
Business 203. Principles of Accounting	—	3
Business 241-242. Beginning and Intermediate Shorthand [†] ..	3	3
English 101-102. Composition and Literature	3	3
Psychology 201. General Psychology	—	3
	15	15
<i>Second Year</i>		
Business 323-324. Business Law	3	3
Business 325. Business Writing	3	—
Business 341. Advanced Shorthand	3	—
Business 341L. Legal Dictation	—	3
Business 343. Office Machines	—	3
Business 345. Advanced Typewriting	3	—
Business 349. Office Procedures	—	3
Economics 201-202. Principles of Economics	3	3
	15	15

Curriculum in Medical Secretarial

This two-year program, leading to an Associate in Science degree, is designed to prepare students for work as assistants or secretaries in doctors' offices, hospitals, and other medical institutions.

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Business 101. Decision Mathematics	3	—
Business 121. Introduction to Business	—	3
Business 242-341. Intermediate and Advanced Shorthand* ..	3	3
Business 245-345. Intermediate and Advanced Typewriting* ..	3	3
Biology 103-104. Anatomy and Physiology	3	3
English 101-102. Composition and Literature	3	3
	15	15

[†] If a student passes the typewriting and shorthand placement tests, he should select from the following electives: Business 102, 204, 438 or Speech 121.

* A student who enters without qualifying for Business 245, Intermediate Typewriting, and Business 242, Intermediate Shorthand, may complete this program by attending an additional semester or a summer session.

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Business 203. Principles of Accounting	3	—
Business 323. Business Law	3	—
Business 325. Business Writing	—	3
Business 341M. Medical Dictation and Procedures	3	—
Business 349. Office Procedures	—	3
Chemistry 105. Survey of Chemistry	—	4
Economics 201-202. Principles of Economics	3	3
Psychology 201. General Psychology	3	—
Approved Elective	—	3
	15	16

ECONOMICS

HARMON H. HAYMES, Chairman of the Department

James H. Alexander / Larry G. Beall / Robert T. Cone / Clifton S. Ferguson

Spencer R. Gervin / George E. Hoffer / Marvin L. Ingram

George W. Jennings / Anwar Kacyra / Max Moser / D. M. O'Toole

Peter Pogany / James M. Savarese / A. M. Sharshar / Eleanor Snellings

George R. Tyler

The program leading to the B.S. degree in Economics is designed to equip students for graduate work in this field of study as well as to provide a broad liberal arts background for students who wish to seek positions in business upon completion of the bachelor's degree. This program also provides courses in economics to meet the needs of students in other curricula offered by the University, particularly those offered by other departments of the School of Business. Candidates for the B.S. degree in Economics must complete not less than 33 credits nor more than 42 credits in economics.

Curriculum in Economics

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Business 101-102. Decision Mathematics	3	3
Business 203-204. Principles of Accounting	3	3
English 101-102. Composition and Literature	3	3
History, Political Science, or Sociology	3	3
Modern Language, Computer Science, or Mathematics	3	3
Physical Education	1	1
	16	16

Credits
1st 2nd
Sem. Sem.

Second Year

Economics 201-202. Principles of Economics	3	3
English 201 or 203 or 205 and English 202 or 204 or 206	3	3
Modern Language, Computer Science, or Mathematics	3	3
Physics, Chemistry, or Biology	4	4
Psychology 201. General Psychology	3	—
Approved Elective	—	3
Physical Education	1	1
	<hr/>	<hr/>
	17	17

Third Year

Business 301. Business Statistics	3	—
Business 323-324. Business Law	3	3
Business 412. Statistical Method	—	3
Economics 301. Microeconomic Theory	3	—
Economics 305. Public Finance—State and Local or Economics 306. Public Finance—Federal	—	3
Economics 307. Money and Banking	—	3
Economics 309. International Trade	3	—
History/Economics 319. Economic History of the U.S. or Economics 320. Economic History of Europe	—	3
Approved Elective	3	—
	<hr/>	<hr/>
	15	15

Fourth Year

Business 411. Financial Management	3	—
Business 415. Investments	—	3
Economics 402. Business Cycles and Forecasting	—	3
Economics 407. Macroeconomic Theory	—	3
Economics 421. Government and Business	3	—
Economics 431. Labor Economics	3	—
History, Political Science, or Sociology	3	3
Approved Electives	3	3
	<hr/>	<hr/>
	15	15

INFORMATION SYSTEMS

NEIL J. HUMPHREYS, Acting Chairman of the Department

H. Leon Adkison / Edwin E. Blanks / Robert P. DuVernay, Jr.
 Joyce T. Forrest / Clarence Guidry / A. Lee Hall / Edward Meharg
 Lois E. Parker / Richard H. Robertson / Linda P. Scott / W. Price Wood

This program, leading to an Associate in Science degree, consists of a sequence of courses designed to prepare students for positions in data processing installations. Persons desiring admission to this program must make a satisfactory score on the programmer's aptitude test (PAT).

Curriculum in Information Systems

		<i>Credits</i>	
		<i>1st</i>	<i>2nd</i>
		<i>Sem.</i>	<i>Sem.</i>
<i>First Year</i>			
Business 101-102.	Decision Mathematics	3	3
Business 161-162.	Functional Writing Principles	3	3
Business 163-164.	Computer Programming	3	3
Business 203-204.	Principles of Accounting	3	3
English 101-102.	Composition and Literature	3	3
		15	15
<i>Second Year</i>			
Business 121.	Introduction to Business	3	—
Business 261-262.	Business Systems Analysis and Design ..	3	3
Business 263-264.	Advanced Computer Programming	3	3
Business 266.	Data Processing Field Project	—	3
Business 268.	Data Processing Installation Supervision	—	3
Business 301.	Business Statistics	—	3
Business 325.	Business Writing	3	—
History, Political Science, or Economics	.....	3	—
		15	15

MARKETING

LEONARD L. BERRY, Chairman of the Department

Donald Bowles / Jane S. Cromartie / Bobby R. Ferguson
 Clyde M. Thompson

The major in marketing is designed to give the student a broad working knowledge of the theory and practice of marketing management. Graduates of this program will find career opportunities in such fields as advertising management, sales and sales management, marketing research, and industrial purchasing.

Curriculum in Marketing

	<i>Credits</i>	
	<i>1st</i>	<i>2nd</i>
	<i>Sem.</i>	<i>Sem.</i>
<i>First Year</i>		
Business 101-102. Decision Mathematics	3	3
English 101-102. Composition and Literature	3	3
History		
or		
Political Science (Year course)	3	3
Sociology 101. General Sociology		
or		
Business 121. Introduction to Business	3	—
Speech 121. Effective Speech	—	3
Electives (Non-Business)	3	3
Physical Education	1	1
	<hr/> 16	<hr/> 16
<i>Second Year</i>		
Business 203-204. Principles of Accounting	3	3
Business 232. Principles of Management	—	3
Business 272. Principles of Marketing	3	—
Economics 201-202. Principles of Economics	3	3
English 201 or 203 or 205		
and		
English 202 or 204 or 206	3	3
Psychology 201. General Psychology	3	—
Elective (Non-Business)	—	3
Physical Education	1	1
	<hr/> 16	<hr/> 16
<i>Third Year</i>		
Business 301. Business Statistics	3	—
Business 323-324. Business Law	3	3
Business 325. Business Writing	3	—
Business 331. Personnel Management	3	—
Business 360. Information Systems Concepts		
or		
Business 361. Computational Programming		
or		
Business 467. COBOL Programming	—	3
Business 371. Transportation	—	3
Business 372. Demand Creation	3	—
Economics 307. Money and Banking	—	3
Elective	—	3
	<hr/> 15	<hr/> 15

		<i>Credits</i>	
		<i>1st</i>	<i>2nd</i>
		<i>Sem.</i>	<i>Sem.</i>
<i>Fourth Year</i>			
Business 411.	Financial Management	3	—
Business 412.	Statistical Method	3	—
Business 415.	Investments	—	3
Business 422.	Real Estate		
or			
Business 333.	Risk and Insurance	3	—
Business 472.	Sales Management	—	3
Business 473.	Marketing Management	3	—
Business 474.	Marketing Research	—	3
Business 475.	Marketing Seminar	—	3
Economics 421.	Government and Business	3	—
Electives		—	5
		15	17

RETAILING

ALVIN K. WELZEL, Acting Chairman of the Department

Joseph A. Binford / M. Dean Dowdy / Faye C. Honeycutt

Freyda M. Lazarus / Kathryn M. McGearry

The purpose of this program is to prepare young men and women for positions at the executive level in large and small stores in the following major areas: buying, store management, control, sales promotion, and personnel. Course offerings provide studies in theories plus current and realistic practices. Store executives and other Richmond businessmen are frequently invited as guest speakers in courses. Many field trips are planned as extensions of class work.

Curriculum in Retailing

		<i>Credits</i>	
		<i>1st</i>	<i>2nd</i>
		<i>Sem.</i>	<i>Sem.</i>
<i>First Year</i>			
Art Education 121-122.	Principles of Art	2	2
Business 101-102.	Decision Mathematics	3	3
English 101-102.	Composition and Literature	3	3
Retailing 107-108.	Current Retail Practices	1	1
History, Political Science, or Sociology	Electives	3	3
Electives		3	3
Physical Education		1	1
		16	16

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>Second Year</i>		
Business 232. Principles of Management	3	—
Business 272. Principles of Marketing	—	3
Economics 201-202. Principles of Economics	3	3
English 201 or 203 or 205 and		
English 202 or 204 or 206	3	3
Psychology 201. General Psychology	—	3
Retailing 220. Procedures in Store Operations	3	—
Electives	3	3
Physical Education	1	1
	16	16

Third Year

Business 203-204. Principles of Accounting	3	3
Business 301. Business Statistics	3	—
Business 360. Information Systems Concepts	—	3
Retailing 319-320. Buying Problems and Procedures	3	3
Business or Economics Electives	3	3
Electives (300-400)	3	3
	15	15

	<i>Block</i>	
	<i>A</i>	<i>B</i>
<i>Fourth Year</i>		
Business 473. Marketing Management	—	— 3
Business 474. Introduction to Marketing Research	—	— 3
Retailing 405. Retail Training Methods	3	— —
Retailing 407. Directed Retailing Experience	—	4 —
Retailing 410. Retail Sales Promotion	3	— —
Retailing 420. Trends and Problems in Retailing	—	— 3
Retailing 426. Merchandising	3	— —
Retailing Elective	—	— 3
Electives (300-400)	3	— 3
	16	15

COMBINED DEGREE IN BUSINESS AND LAW

ALEXANDER C. MURRELLE, Advisor

A broad education in economics, accounting, finance, corporate organization, taxation, labor economics, and other fields has become increasingly important to the lawyer. A student can earn both the Bachelor of Science degree and a law degree in a period of six years. The School of Business

offers such a combined curriculum in business and law in cooperation with accredited law schools. The first three years of the program are offered at the University. Students taking this combined program complete the first three years of a specified curriculum in the School of Business.

It is the responsibility of the student to see that he completes the requirements for admission to the law school that he expects to attend. The University can give no guarantee as to the acceptance of any individual student by the law school to which he applies.

When a student has completed the specified three years of work in the School of Business and has successfully completed two years of work at an accredited law school, the University will grant the Bachelor of Science degree in Business. The dean of the law school in question must certify that the student is eligible for admission to the third year of work in that school.

GRADUATE PROGRAM IN BUSINESS

The School of Business offers graduate work leading to the degree of Master of Science in Business. The program is a professional one designed to prepare candidates for responsible participation in business, industry, government, and education. Details of the program are given in a separate graduate bulletin which will be sent upon request. Write Dr. J. Kenneth Roach, Director of Graduate Studies, School of Business, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220.

COMPUTER CENTER

E. E. BLANKS, Director

The facilities of the Computer Center are available for use in undergraduate and graduate instruction and research. Students interested in a general background in automated data processing will find related courses taught within the School of Business.

A Honeywell 200 computer system, along with peripheral equipment for punching, reproducing, and sequencing cards is utilized by both the students and the administration. Primary storage of the computer is 20,000 characters with secondary storage of four magnetic tape drives. The programming languages consisting of Easycoder, FORTRAN, and COBOL along with various catalogued statistical programs are available with this system. An IBM 2770 terminal connected to an IBM 360-50 computer system at the College of William and Mary is also utilized for instruction and research.

MANAGEMENT CENTER

RAY M. AYRES, Acting Chairman

E. Cofer Loomer / Virgil C. Mansfield

The Management Center exists for the purpose of providing non-credit educational programs for business, industry groups, trade and professional

associations, and various governmental agencies. These programs may represent the total training effort of an entity or may be used to supplement an existing program. They may be designed as short courses, seminars, conferences, or workshops. They may be conducted on or off campus.

The Management Center strives to:

- (1) Provide educational programs designed to develop personnel for executive positions.
- (2) Offer a broad spectrum of programs including:
 - a. Executive development
 - b. Middle-management improvement
 - c. First-level supervision
 - d. Supervisory development
- (3) Present programs that explore the most advanced academic and professional thinking in various phases of business.
- (4) Engage in experimental studies to develop criteria needed to improve educational programs for business and industry.
- (5) Encourage and expand university interdisciplinary offerings for business, industry, and the community.

The Management Center staff of experienced program planners is available to all groups. In addition to initiating short-term educational programs of its own design, the Center serves as a liaison between the academic resources of the University and outside groups or organizations.

The Management Center develops and conducts certificate courses in management, supervision, and general development that meet one night each week on campus. Typical courses include:

- | | |
|-------------------------------------|---|
| • Management Principles | • Reading Improvement Workshop |
| • Supervisory Training | • Labor Relations Practice |
| • Leadership and Human Relations | • Medical Terminology |
| • Building Effective Communications | • Data Processing Techniques |
| • Engineering Quality Control | • Industrial Purchasing and Contracting |

COURSES IN ADVERTISING

Advertising 101 Principles of Advertising Both semesters; 3 lecture hours. 3 credits. • A survey of all forms of advertising; principles of layout copy; production methods; campaign preparation; media selection.

Advertising 106 Advertising Production Second semester; 3 lecture hours. 3 credits. • Various production methods are studied to determine their specific applications to advertising material. Field trips to production plants are included.

Advertising 201 Advertising Media Selection First semester; 3 lecture hours. 3 credits. • A study of media terminology and mathematics, including an analysis of retail and general rate structure in all media.

Advertising 202 Advertising Communication Second semester; 3 lecture hours. 3 credits. Prerequisite: Advertising 101. • Principles of verbal and visual communication in creating and translating advertising ideas into print and broadcast terms. Study of aesthetic, emotive, and informative appeals.

Advertising 301 Consumer Behavior First semester; 3 lecture hours. 3 credits. Prerequisite: Advertising 202. • A study of advertising as a social institution and a communication process. Incorporates concepts developed in the behavioral sciences as means of explaining consumer motivation and behavior.

Advertising 303 Creative Strategy First semester; 3 lecture hours. 3 credits. Prerequisite: Advertising 202. • Development of creative strategies to accomplish advertising objectives. Students develop and defend campaign themes and message ideas, including print layouts and television storyboards.

Advertising 304 Media Strategy Second semester; 3 lecture hours. 3 credits. Prerequisite: Advertising 303. • Development of media strategies to accomplish advertising objective. The evaluation of media vehicles in terms of creative requirements, budget limitations, audience characteristics, and cost efficiency.

Advertising 311-312 Retail Advertising Layout and Production Both semesters. 3 credits. • A specific course in the preparation, placing, and proofing of retail advertising in daily newspapers and local weekly and monthly publications. Its aim is to improve the appearance, effectiveness, individuality, originality, and unity of space advertising in competition with other advertising in the periodical publications listed above. Emphasis is placed on the ingenious and creative use of accepted practical and economical layout and production facilities rather than on pure creativity.

Advertising 313 Television and Radio Advertising First semester; 3 lecture hours. 3 credits. • Principles and practices of successful radio-television advertising; emphasis on media research, rate structure, programming, creativity in broadcast commercials.

Advertising 401-402 Advertising Campaigns I and II Continuous course; 3 lecture hours. 3-3 credits. • Campaigns will be evaluated, and each student will plan one or more campaigns.

Advertising 403 Advertising Management First semester; 3 lecture hours. 3 credits. • Use of the problem-solving approach to management problems; advertising department organization; preparation of advertising budgets; advertising agency relations.

Advertising 404 Current Advertising Analysis Second semester; 3 lecture hours. 3 credits. • Discussion of current advertising campaigns and media, creative and research trends. Special attention is given to the literature of the field.

Advertising 405 Direct Mail Planning and Production First semester; 3 credits. • A study of the direct mail practices used in planning, creating, and scheduling effective direct mail advertising.

Advertising 409, 410 Sales Promotion by Manufacturers and Media Semester courses. 3 credits. Prerequisite: Advertising 409 or equivalent for Advertising 410. • Describes and analyzes sales promotion on three distinct levels: between a manufacturer, his distributors, and dealers, contact between a manufacturer and the consumer of his products, activities within a company's own marketing division which supplement personal selling and advertising. Merchandising activities and aids of all media are covered.

Advertising 411 Advertising Media Workshop Second semester. 3 credits. Prerequisite: Advertising 201 or permission of the instructor or the department chairman. • The application of media principles, research, and techniques in the evaluation and selection of consumer and trade media. Students will develop total media plans with objectives, strategy, rationale, schedules, and budgets.

Advertising 418 Seminar in Economics, Social, and Legal Aspects of Advertising Second semester. 3 credits. • An examination of the role of advertising in modern life in America in light of historical and recent development in advertising and distribution.

Advertising 421 Tourist Advertising and Promotion First semester. 3 credits. • A study of advertising and sales promotion principles and practices used in planning and executing programs in the tourist industry, the role and scope of tourist advertising by commercial firms, government agencies, trade associations, and other institutions. The course will be specifically concerned with tourist advertising and promotion in Virginia.

Advertising 423 Industrial and Professional Advertising First semester. 3 credits. • How industrial advertising differs from consumer advertising. Forms of industrial advertising. The industrial advertising budget. Career opportunities in industrial advertising. How professional advertising differs from consumer advertising.

COURSES IN BUSINESS

Business 101-102 Decision Mathematics Continuous course; 3 lecture hours. 3-3 credits. • Provides the mathematical background necessary for the modern businessman to understand the quantitative methods of problem solving. First semester topics include algebra, logarithms, compound interest, and linear mathematics with special emphasis on linear programming. Second semester covers matrix algebra, elemental calculus, and basic probability concepts.

Business 121 Introduction to Business Both semesters; 3 lecture hours. 3 credits. • This course is designed to develop elementary concepts in the major areas of business. The student learns how business functions, the institutions of business, the relationship of business and government, and at the same time acquires a business vocabulary. The course should also assist students in making an intelligent choice of a business career.

Business 145 Beginning Typewriting Both semesters; 3 lecture hours. 3 credits. • Includes the development of skill in typing letters, manuscripts, and simple statistical work. May not be taken for credit by persons who

have had as much as **two** semesters of prior instruction in typewriting at any level except with permission of the department chairman.

Business 161-162 Functional Wiring Principles Continuous course; 3 lecture hours. 3-3 credits. • This course is designed to provide a foundation for detailed study in the major areas of data processing. The card punch, sorter, reproducing punch, and tabulator will be discussed with emphasis on their use in accounting and record keeping. Laboratory exercises involving planning and wiring a range of unit record equipment will be completed.

Business 163-164 Computer Programming Continuous course; 3 lecture hours. 3-3 credits. • The basic concepts of digital computers will be developed in this course. Topics covered will include central processing unit, storage devices, arithmetic unit, logic ability, block diagramming, and principles of stored programming. Laboratory sessions will be used to solve case problems on basic card systems.

Business 203-204 Principles of Accounting Continuous course; 3 lecture hours. 3-3 credits. • This is a basic course in accounting, presenting all the steps in the bookkeeping cycle as applied to single proprietorships, partnerships, and corporations.

Business 232 Principles of Management Both semesters; 3 lecture hours. 3 credits. • A course designed to enable students to understand and apply the basic principles relating to the efficient management of an organization.

Business 241-242 Beginning and Intermediate Shorthand Continuous course; 3 lecture and 2 laboratory hours. 3-3 credits. • A course in shorthand theory and dictation with an introduction to transcription. Business 241 may not be taken for credit by persons who have had **two** semesters of prior instruction, and Business 242 may not be taken for credit by persons who have had **four** semesters of prior instruction except with permission of the department chairman.

Business 245 Intermediate Typewriting Both semesters; 3 lecture hours. 3 credits. Prerequisite: Business 145. • Includes development of typewriting speed and accuracy and the application of typewriting to business papers. May not be taken for credit by persons who have had as much as **four** semesters of prior instruction in typewriting at any level except with permission of the department chairman.

Business 261-262 Business Systems Analysis and Design Continuous course; 3 lecture hours. 3-3 credits. • Designed to guide the student through the three stages in the evolution of a system: (1) analysis of present information flow, (2) system specification and equipment selections, and (3) implementation of the system. The detailed steps of each phase of systems design are shown in relation to the over-all study.

Business 263-264 Advanced Computer Programming Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Business 163-164 or permission of instructor. • The principles presented in Business 163-164 are employed in this course. Advanced input-output media and logic decision techniques will be emphasized. Laboratory sessions will be used to solve magnetic tape and random access problems.

Business 266 Data Processing Field Project Second semester; 3 lecture hours. 3 credits. • Primarily designed to give the student an overview of practical data processing. The project will involve the student in a real problem emanating from an actual data processing situation.

Business 268 Data Processing Installation Supervision Second semester; 3 lecture hours. 3 credits. • The student will be given concrete examples of the steps taken in problem definition, problem analysis, solution development, and solution application. Emphasis is placed on management planning in the data processing installation and the methodology of supervision and control.

Business 272 Principles of Marketing Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201. • Functions, institutions, and basic problems in marketing goods and services in our economy.

Business 301 Business Statistics Both semesters; 3 lecture hours. 3 credits. Prerequisites: Business 101-102 and junior standing. • Basic methods of collecting and presenting data are introduced. Analysis of data is studied by the calculation of index numbers, central tendency, and dispersion. Course includes an introduction to sampling and probability.

Business 303-304 Intermediate Accounting Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Business 203-204. • A review of the accounting cycle and accounting statements. Problems in asset, liability, and net worth accounts are studied. Other topics include correction of statements and books, statement of application of funds, and analysis of balance sheet and profit and loss statements.

Business 315 Personal Finance Both semesters; 3 lecture hours. 3 credits. • Designed to assist families and individuals in making complex financial decisions. Units include income and expenditure, credit, borrowing, banking, savings, insurance, home buying, investment, and estate planning. May not be taken for degree credit by School of Business majors.

Business 323-324 Business Law Continuous course; 3-3 lecture hours. 3-3 credits. • Designed to aid the student in understanding legal fundamentals applicable to business activities.

Business 325 Business Writing Both semesters; 3 lecture hours. 3 credits. Prerequisite: English 101-102. • The solution of representative business problems through the writing of letters and reports.

Business 331 Personnel Management First semester; 3 lecture hours. 3 credits. Prerequisite: Business 232 or permission of the instructor. • An examination of basic problems of employee-management relations; process of employment, selection, and placement; wage levels and methods; job studies and descriptions; training methods and programs; and employee rating systems.

Business 333 Risk and Insurance Both semesters; 3 lecture hours. 3 credits. • Nature of risk; insurance and other methods of dealing with risk; life and health, and property and liability insurance; insurance as an economic and social institution.

Business 341 Advanced Shorthand and Transcription Both semesters; 3 lecture and 2 laboratory hours. 3 credits. Prerequisites: Business 242 and Business 345 or satisfactory completion of shorthand and typewriting placement tests. • This course develops dictation speeds from 100 to 120 words a minute and transcription speeds from 20 to 25 words a minute.

Business 341L Legal Dictation and Transcription Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 341. • This course includes the learning of a legal vocabulary and the taking and transcribing of legal dictation. The course is designed for secretarial students who desire specialized training in the legal field.

Business 341M Medical Dictation and Office Procedures Semester course; 3 lecture hours. 3 credits. Prerequisite: Business 341. • Medical vocabulary, dictation, and office procedures for secretaries.

Business 343 Office Machines Semester course; 5 laboratory hours. 3 credits. Prerequisites: Business 101 and Business 145. • Designed to acquaint the student with all types of office machines and their appropriate use in business organizations of different sizes as well as to develop skill in the use of these machines. Admission to this class is restricted to business education and office administration majors.

Business 345 Advanced Typewriting Both semesters; 3 lecture hours. 3 credits. Prerequisite: Business 245 or satisfactory completion of typewriting placement test. • Students develop maximum typewriting speed and accuracy for sustained periods of time. Advanced typewriting problems and production speed are emphasized.

Business 349 Office Procedures Both semesters; 3 lecture hours. 3 credits. • Designed for secretarial students to provide a knowledge of duties and correct office procedures required by an efficient business organization.

Business 353 Introduction to Business Teaching Both semesters; 3 lecture hours. 3 credits. • Provides a detailed examination of the principles and problems of business education on the secondary level.

Business 360 Information Systems Concepts Both semesters; 3 lecture hours. 3 credits. • Provides a general orientation to the stored program computer and an insight into the broad impact which computers have on the business environment. Several programming languages are discussed and selected elementary business-oriented problems are programmed.

Business 361 Computational Programming Both semesters; 3 lecture hours. 3 credits. • A study of the use of computers to solve quantitative problems. Emphasis is given to a computational programming language with the intent of making the computer a useful tool in the student's major field.

Business 365 Numerical Methods for Digital Computers Second semester; 3 lecture hours. 3 credits. Prerequisites: Business 102 and Business 360 or permission of instructor. • Use of digital computer in the solution of specific business problems involving algebraic equations, distributions, and linear

programming. Course material requires prior exposure to FORTRAN and basic calculus, although both areas are reviewed in the beginning of the course.

Business 371 Transportation Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 272. • Impact of intercity transportation systems on society. Emphasis on modal differences in development, economic characteristics, and regulation.

Business 372 Demand Creation First semester; 3 lecture hours. 3 credits. Prerequisite: Business 272. • The role of personal and non-personal communications in the marketing process and the planning and integration of promotional programs.

Business 373 Advertising Management Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 372 or permission of instructor. • Analysis of field advertising, purposes, techniques, media, organization, and role of research; economic and social aspects of advertising.

Business 401-402 Cost Accounting Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Business 203-204. • A study of the principles of job order and process cost accounting and the special problems relating to job order and process cost accounting.

Business 403-404 Advanced Accounting Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Business 303-304. • An advanced course to present problems in parent and subsidiary accounting, consolidated balance sheets and income statements, consolidations and mergers, insurance, statement of affairs, statements of realization and liquidation, and estates and trusts.

Business 405 Tax Accounting First semester; 3 lecture hours. 3 credits. Prerequisite: Business 203-204. • After a survey of the development of income tax legislation and the concept of taxable income, this course examines in detail the present Federal Income Tax Law and develops the accounting principles and procedures involved in the preparation of tax returns for individuals and corporations.

Business 406 Auditing Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 303-304. • The work of the public accountant in investigating, interpreting, and appraising accounting records. An analysis of the accuracy, appropriateness, and soundness of the accounting principles employed is made in order that one may be able to apply the methods and procedures followed in conducting an audit.

Business 407 Purchasing: Industrial, Commercial, Institutional First semester; 3 lecture hours. 3 credits. • Purchasing policies and problems designed to meet the needs of marketing, production, engineering, and general administrative functions, including control, accounting, performance evaluation, and various other related activities. Subject matter presented from a management point of view.

Business 408 C.P.A. Problems Second semester; 3 lecture hours. 3 credits. Prerequisite: 24 hours of accounting or permission of instructor. • An intensive analysis of the theory and practice of accounting through the solution and discussion of C.P.A. examination problems.

Business 409 Governmental Accounting First semester; 3 lecture hours. 3 credits. Prerequisite: Business 203-204. • Accounting principles and procedures pertaining to governmental agencies; governmental classification of receipts and expenditures; preparation of reports; budgeting and operation of fund accounts.

Business 410 Advanced Tax Accounting Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 405. • Materials are carefully selected to present complex tax problems common to the sole proprietorship, partnership, and corporation. Particular emphasis is given to advanced tax problems peculiar to the corporation.

Business 411 Financial Management First semester; 3 lecture hours. 3 credits. Prerequisite: Business 204. • Fundamental principles of optimal financial policy in the procurement and management of wealth by privately-owned, profit-seeking enterprises; the application of theory to financial decisions involving cash flow, capital structure, and capital budgeting.

Business 412 Statistical Method Both semesters; 3 lecture hours. 3 credits. Prerequisite: Business 301. • Course includes additional study of sampling and probability. Other topics include tests of significance, correlation, index number construction, and chi-square as these topics have application to business and economic problems.

Business 413 Managerial Accounting Both semesters; 3 lecture hours; 3 credits. Prerequisite: Business 203-204. • An introduction to internal (management) accounting. This course emphasizes the attention-directing and problem-solving functions of accounting in relation to current planning and control, evaluation of performance, special decisions, and long-range planning. Stress is on cost analysis rather than on cost record keeping. Restricted to students who have not completed Business 401-402 or its equivalent.

Business 414 Accounting Seminar Second semester; 3 lecture hours. 3 credits. Prerequisites: Business 304 and 6 semester hours in accounting on the junior or senior level. • Current periodical literature provides the framework for detailed study; oral and written reports.

Business 415 Investments Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 411 or permission of instructor. • A survey of investment principles and practice. Emphasis is given to problems of security analysis and portfolio management.

Business 417 Cases in Financial Management Both semesters; 3 lecture hours. 3 credits. Prerequisite: Business 411. • Cases involving financial decisions for various forms of business enterprises.

Business 421 Small Business Management Second semester; 3 lecture hours. 3 credits. • The importance, problems, and requirements of small

businesses; establishing policies for prices, promotion, control, and credit; regulations, taxes, records, and record-keeping.

Business 422 Real Estate Second semester; 3 lecture hours. 3 credits. Prerequisites: Economics 201-202 and Business 323-324 or permission of instructor. • Designed to present the economic factors influencing the real estate business and to afford information regarding principles it follows. Subjects considered include contracts, deeds, evaluation, financing, and development of sub-divisions.

Business 424 Property and Liability Insurance Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 423 or permission of instructor. • Study of coverage and rating in the following areas of insurance: fire, marine, automobile, general liability, workmen's compensation, theft, and fidelity; and study of surety bonds.

Business 425 Real Estate Appraisal and Investment Second semester; 3 lecture hours. 3 credits. • Designed for persons who have completed a course in principles of real estate or its equivalent. The course will provide more intensive treatment of some of the topics discussed in Business 422 and give particular attention to the problems of real estate appraisal.

Business 426 Life and Health Insurance First semester; 3 lecture hours. 3 credits. • Study of the function and uses of life insurance, health insurance, and annuities; and study of the Social Security System.

Business 427-428 Labor Law and Legislation Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: Business 323-324 or permission of instructor. • Designed to aid the student in understanding fundamentals of labor law and legislation applicable to business activities.

Business 429 Real Estate Finance First semester; 3 lecture hours. 3 credits. Prerequisite: Business 422 or permission of instructor. • Instruments, techniques, and institutions of real estate finance; sources of funds; the mortgage market; mortgage risk analysis; creative financing; emphasis on typical policies and procedures used in financing residential, industrial, and commercial properties, including commercial leasing.

Business 432 Industrial Management Second semester; 3 lecture hours. 3 credits. Prerequisites: Economics 201-202 and Business 232 or permission of instructor. • Designed to analyze the problems of the industrial manager, including plant location, planning of factory buildings, materials handling and control, inspection, and supervision.

Business 433 Job Evaluation Second semester; 3 lecture hours. 3 credits. • The methods and techniques of obtaining job descriptions, job characteristics and measuring scales, job rating, and the awarding of wage increments.

Business 435 Seminar in Personnel Management First semester; 3 lecture hours. 3 credits. Prerequisite: Business 331 or permission of instructor. • A critical study of selected problems in personnel management.

Business 436 Credits and Collections Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 203-204. • The problems and techniques of mercantile credit management. Topics presented include the use of credit instruments, functions and duties of the credit manager, sources of credit information, financial statement analysis and the use of various aids for the collection of slow accounts.

Business 438 Office Management Both semesters; 3 lecture hours. 3 credits. Admission to this class is restricted to business education and office administration majors. • The planning and installing of correct office methods and systems; securing effective correspondence and stenographic work; improving mailing, filing, and duplicating methods; preparation of reports; office problems of special departments; and employee supervision and control.

Business 443-444 Specialized Office Machines I and II Semester course; 1 lecture hour and 2 laboratory hours. 2-2 credits. • Machines which a student can learn to operate include: electric typewriters, adding and calculating machines, ten-key calculating machines, stencil duplicators, offset duplicators, fluid duplicators, bookkeeping machines, dictating and transcribing machines.

Business 448, 449 Professional Secretarial Training Semester courses; 3 lecture hours. 3, 3 credits. • Designed for secretaries who desire to broaden their educational background. Special emphasis is placed on accounting, business administration, human relations, personal adjustment, general secretarial and office procedures, letter composition, and public speaking. The year course will serve as partial preparation for the Certified Professional Secretary examination given each May by the National Secretaries Association.

Business 453 Teaching Bookkeeping and Basic Business Both semesters; 3 lecture hours. 3 credits. • Designed for prospective teachers of bookkeeping, general business, arithmetic, and other basic business subjects. It encompasses methods of teaching these subjects and a survey of currently used textbooks and available resource material.

Business 455 Teaching Secretarial Subjects Both semesters; 3 lecture hours. 3 credits. • Designed for prospective teachers of shorthand, typewriting, and office practices. It encompasses methods of teaching these subjects and a survey of currently used textbooks and available resource material.

Business 460 Data Processing Systems and Methods Both semesters; 3 lecture hours. 3 credits. Prerequisite: Business 360. • For management or supervisory personnel and those interested in a broader concept of integrated data processing. Applications are made to payroll, accounts receivable and payable, manufacturing control, retail store accounting, insurance, and other types of business operation.

Business 461-462 Unit Record Equipment Continuous course; 3 lecture hours for business education majors and business teachers only. 3-3 credits. • Designed to provide a working knowledge of unit record equipment in-

cluding the card punch, sorter, interpreter, collator, reproducing punch, and accounting machine. Laboratory exercises involving planning for and wiring the equipment will be completed.

Business 463-464 Digital Computer Programming Continuous course; 3 lecture hours for business education majors and business teachers only. 3-3 credits. • The basic concepts of digital computers. All computer devices and techniques will be discussed. A basic business computer language will be taught and used to solve business problems. Laboratory exercises involving planning for and writing program for the equipment will be completed.

Business 465 Computer Simulation Techniques First semester; 3 lecture hours. 3 credits. Prerequisite: Business 365 or permission from instructor. • Use of digital computer for simulation of organization problems involving such quantitative techniques as queueing theory, inventory, and scheduling systems. A strong knowledge of FORTRAN or COBOL programming language is required for this course.

Business 466 Management of Data Processing Installations Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 460 or permission of instructor. • Emphasizes advanced management concepts in computer operations environment. Topics considered include feasibility studies, systems evaluation, real time and time sharing operations, and simulation of business operations.

Business 467-468 COBOL Programming Continuous course; 3 lecture hours. 3 credits. • An introduction to and the utilization of the Common Business Oriented Language. This relatively machine-independent compiler language will be used by students to express the solutions of business-oriented problems to the computer.

Business 472 Sales Management First semester; 3 lecture hours. 3 credits. Prerequisite: Business 372 or permission of instructor. • Sales department organization, planning, territories, quotas, research, training, selection, supervision, compensation of salesmen.

Business 473 Marketing Management First semester; 3 lecture hours. 3 credits. Prerequisite: Business 372 or permission of instructor. • Factors affecting marketing management decisions. Demand analysis, buyer behavior, forecasting, competitive analysis; distribution structure, locational patterns; cost analysis; optimizing.

Business 474 Marketing Research Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 372 or permission of instructor. • Research methods applied to marketing; survey of sales forecasting; market analysis; distribution cost analysis.

Business 475 Marketing Seminar Second semester; 3 lecture hours. 3 credits. Prerequisite: Business 473 or permission of instructor. • Experience in formulating, analyzing, and solving current marketing problems.

Business 476 Industrial Marketing First semester; 3 lecture hours. 3 credits. Prerequisite: Business 372 or permission of instructor. • An analysis

of the marketing structure of industrial products. Product lines, channels of distribution, selling, pricing, warehousing, and wholesaling problems.

Business 487 Quantitative Management Methods Second semester; 2 lecture hours. 2 credits. Prerequisite: Business 412 or its equivalent. • Coverage includes application of mathematical problem-solving techniques to modern business situations, including the use of models, simulation, and game theory.

Business 499 Management Seminar Second semester; 3 lecture hours. 3 credits. Prerequisite: Senior standing in business management or consent of instructor. • A critical analysis of the management concept.

For the listing of graduate courses in the School of Business see the **Graduate Bulletin**.

COURSES IN ECONOMICS

Economics 201-202 Principles of Economics Continuous course; 3 lecture hours. 3-3 credits. • A course designed to acquaint the student with a theoretical and practical understanding of the economic institutions and problems of the American economy.

Economics 203 Introduction to Economics Both semesters; 3 lecture hours. 3 credits. • A survey of economic principles, institutions, and problems in the United States. The course is designed to provide basic economic understanding for students who do not expect to take additional economics courses.

Economics 301 Microeconomic Theory First semester; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • Analysis of value and distribution. Supply and demand, theory of the firm, competition and monopoly. Determination of prices and wages in a market economy.

Economics 305 Public Finance—State and Local Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • A description and analysis of state and local government taxing and spending policies and practices. The course is designed to develop an understanding of state and local fiscal operations and their relationship with federal fiscal operations.

Economics 306 Public Finance—Federal Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • A survey of the principles, practices, and problems of federal finance; the nature and growth of federal expenditures; the nature and effect of various types of federal taxes; fiscal policy and administration; the public debt and its impact on the economy.

Economics 307 Money and Banking Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • A study of money, its nature, its issuance, and its control. Emphasis is on the institutional aspects of our monetary structure, especially the role of the banking system in the creation of money and of the Federal Reserve System in the control of the money supply.

Economics 308 Economic Geography Second semester; 3 lecture hours. 3 credits. • A study of the world's important agricultural and mineral resources dealing principally with factors controlling regional distribution, production, transportation, and consumption.

Economics 309 International Trade First semester; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • An analysis of the fundamentals of world trade, the significance of economic and geopolitical influence on exports and imports, and problems and policies relating to foreign investment.

Economics 310 Economics and Poverty Second semester; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • A study of the economic problems of low-income groups and agency and foundation programs designed to encounter these problems.

Economics 319 Economic History of the United States Second semester; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • An analysis of the various economic factors that have contributed to the development of the American economy from the colonial period to the present time.

Economics 320 Economic History of Europe First semester; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • Designed to give the student a broader basis for understanding current European problems by analyzing the economic factors which have contributed over the past century or more to their development.

Economics 401 Introduction to Econometrics Second semester; 3 lecture hours. 3 credits. Prerequisites: Economics 201-202 and Business 301. • The application of statistical inference and mathematical tools to economic phenomena. Most emphasis will be placed on regression analysis as applied to the structure of economic models.

Economics 402 Business Cycles and Forecasting Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • An examination of the nature of cyclical and other types of variations in economic activity; the measurement of economic fluctuations; analysis of the critical aspects of business cycle theory; control of business cycles; and business forecasting techniques.

Economics 405 Managerial Economics Summer session; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • The application of economic analysis to managerial decision-making in relation to problems of supply and demand, prices, profits, production, and distribution. Special emphasis on the role of competition in decision making.

Economics 407 Macroeconomic Theory Second semester; 3 lecture hours. 3 credits. Prerequisite: Economics 307. • A general survey of national income analysis and macroeconomic theory. Detailed study of public policies affecting price levels, employment, economic growth, and the balance of payments.

Economics 409 International Economics Second semester; 3 lecture hours. 3 credits. Prerequisite: Economics 309. • A study of the theories of international trade and financial relationships with emphasis on the contribution of these theories to solution of current international economic problems.

Economics 412 Regional Economics Summer session; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • A course to familiarize students with courses and uses of standard data on employment, income, and population and to provide an introduction to economic base theory as used in regional economics. Application of theory to make and analyze economic and demographic projections for regions in Virginia. Analysis of operation and impact of area economic development programs.

Economics 421 Government and Business Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • Designed primarily to study the many ways in which business and economic life are directed by government. Topics covered include the economics of monopoly power; the anti-trust laws, and their application and enforcement.

Economics 431 Labor Economics Both semesters; 3 lecture hours. 3 credits. Prerequisite: Economics 201-202. • The objective of this course is to acquaint the student with the nature and causes of labor-management problems in the United States. Subjects included are the historical background of labor movements, theories of labor movements, wage theories, theories of employment, labor legislation, collective bargaining.

Economics 432 Manpower Economics Summer session; 3 lecture hours. 3 credits. Prerequisite: Economics 431. • Topics to be studied include the labor force and the labor market, education as a factor in economic growth, automation and unemployment, minority manpower, womanpower, scientific and technical manpower; full employment; a comprehensive employment and manpower policy in the United States.

For the listing of graduate courses offered by the Department of Economics, see the **Graduate Bulletin**.

COURSES IN RETAILING

Retailing 107-108 Current Retailing Practices Both semesters; 1 lecture hour. 1 credit. • An exploration of current information regarding the operation of various types of retail institutions; chain and independent stores, food stores, department stores, specialty shops, and others. Vocation information in various phases of store work is included.

Retailing 116 Merchandising Information—Textiles Both semesters; 3 lecture hours. 3 credits. • A study of fabric construction, finishes, and the properties of natural and man-made fibers. Actual samples of fabrics are studied to determine values to consumers in clothing and home furnishings. Laboratory fee \$7.50.

Retailing 205 Principles of Salesmanship Both semesters; 3 lecture hours. 3 credits. • To develop selling standards that will help those who sell do so with greater efficiency, through a creative approach, understanding buying

motives, organizing sales presentations, and suggestion selling. Application of techniques through demonstrations, projects, and case studies.

Retailing 209 Display Both semesters; 3 lecture hours. 3 credits. • Theory and practice of the principles of display as used in retail stores and other distributive businesses.

Retailing 212 Personnel Techniques in Distribution 3 credits. • Study of the supervisor's role in distribution; current personnel policies and practice; the human problems in personnel relationships.

Retailing 215 Merchandise Information—Non-Textiles Both semesters; 3 lecture hours. 3 credits. • A study of materials used, construction, care, and government regulations of various types of merchandise such as china-ware, glass ware, silverware, leather, jewelry, furniture, and other types of home furnishings. Values and quality standards for the consumer are stressed.

Retailing 220 Procedures in Store Operation Both semesters; 2 lecture hours and 2 laboratory hours per week. 3 credits. • Operation and service activities as functions of store management. The areas of store location and layout, customer services, receiving and marketing, and protection are covered. Field trips to selected retail and service operations are scheduled each week.

Retailing 317 Fashion Trends and Coordination First semester; 3 lecture hours. 3 credits. • A study of fashion trends and the relation of fashion to merchandising, promotion, and training in retail stores. Using the changes in fashion of the current season, a technique is developed that may be applied to trends in any merchandise. A fashion show is presented as a project.

Retailing 319-320 Buying Problems and Procedures Continuous course; 3 lecture hours. 3 credits. • A study of problems involving initial markup, retail method of inventory, maintained markup, turnover, profit, stock sales ratios and their application to the buyer's job. Dollar and unit planning, unit control, model stocks, merchandise selection, pricing, and market procedures are emphasized and practiced with projects.

Retailing 321, 322 Food Distribution Both semesters. 3 credits. Prerequisite: Business 272 or permission of instructor. • Provides information about the specific practices and problems of businesses engaged in the wholesale and retail distribution of food.

Retailing 405 Retail Training Methods First semester; 3 lecture hours. 3 credits. • The techniques of individual and group training as applied to employees of a store. Practice is given in the preparation of teaching outlines and the application of varied training methods. Students plan and present department meetings on information and skills.

Retailing 407 Directed Retailing Experience First semester; 4 credits. • Two sessions of directed practical experiences in retail stores. The first requires a minimum two months of full-time work in sales or sales supporting positions during July and August just prior to the senior year. The

second phase comes in November and December when students assume supervisory and junior executive responsibilities in retailing. Written projects and evaluations are presented for each segment of experience.

Retailing 410 Retail Sales Promotion First semester; 3 lecture hours. 3 credits. • The scope and activities of sales promotion in stores with emphasis on the coordination of advertising, display, special events, and publicity. External and internal methods of promoting business; budgeting, planning, and implementing the plan.

Retailing 416 Retail and Marketing Research Project Second semester; 6 weeks of research. 5 credits. • Coordinated and supervised research in retail stores and other distributive businesses solving problems designed by the stores and businesses which need study and analysis. Under the direction of an administrative executive, the students compile a complete report of facts and findings in a research project which is submitted to the University and to the store or business.

Retailing 420 Trends and Problems in Retailing First semester. 3 credits. • Presentation and discussion of recent trends and current pressing problems in the retail industry.

Retailing 421 Small Retail Store Management Second semester. 3 credits. • The importance, problems, and requirements of small retail stores. The financing, organizing, selecting location, buildings, and layout, establishing policies of personnel, pricing, promotion, credit, and control, regulations, taxes, records, and record keeping. Students work on all stages in the planning and organization of a new small store.

Retailing 425 Retail Finance and Control Second semester; 3 lecture hours. 3 credits. • A study of the control division of a store including planning, inventory control, expense control, credit, financing, and other control functions.

Retailing 426 Merchandising First semester; 3 lecture hours. 3 credits. • A study of the cycles of merchandising, analysis of past performance in departmental operating statements, all types of planning, buying, use of tools of stock management, aids to selling. Management viewpoint stresses ways of increasing sales and profit through planning and adjustment to current conditions.

SCHOOL OF COMMUNITY SERVICES

HARLAND W. WESTERMANN, Dean

MARION N. HORMACHEA, Assistant Dean

The School of Community Services aims to produce a broadly educated person imbued with a sense of social responsibility and prepared through study, research, and field experience to perform competently both as a citizen and as a professional, providing human services in a complex urban environment.

The school offers the Associate of Arts degree in Law Enforcement and three four-year curricula, each of which leads to a Bachelor of Science degree in the fields of:

Law Enforcement
Recreation
Social Welfare

Also offered are a number of courses in the field of urban studies.

A graduate program leading to the Master of Science degree in Rehabilitation Counseling is described in the **Graduate Bulletin**, available upon request to the Director of Admissions or the Department of Rehabilitation Counseling.

FRESHMAN-SOPHOMORE CORE CURRICULUM

All students seeking baccalaureate degrees offered by the School of Community Services are required to fulfill the following two-year core curriculum. It should be noted that, with the exception of the 13 credit hours of community service courses, work taken in any topical field-of-study is limited to a maximum of 12 credit hours during these first two years.

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Community Services 115-116. The American City	3	3
English 101-102. Composition and Literature	3	3
Mathematics 113. Survey of Finite Mathematics	3	—
Mathematics 213. Introduction to Statistics	—	3
Approved Electives*	3	3
Electives	3	3
	15	15

Second Year

Community Services 201. Perspectives in Community Service	3	—
Community Services 202. Understanding the City	—	4
Physical Science (Biology, Chemistry, Physics)	4	4
Psychology 201. General Psychology	3	—
Sociology 101. General Sociology	—	3
Approved Electives*	3	3
Electives	3	3
	16	17

*** Approved Electives**

Afro-American Studies 201-202. Introduction to Afro-American Studies	3	3
Economics 201-202. Principles of Economics	3	3
Law Enforcement 109. Introduction to Law Enforcement ...	3	
Law Enforcement 215-216. Police Organization and Administration	3	3
Law Enforcement 240. Criminal Investigation	3	
Philosophy 221. Informal Logic	3	
Philosophy 222. Formal Logic	3	
Political Science 201-202. American Government	3	3
Recreation 205. Social Recreation	3	
Recreation 207. Community Recreation	3	
Recreation 211. Directed Practice in Recreation	3	
Social Welfare 201. Social Welfare as an Institution	3	
Social Welfare 202. The Profession of Social Work	3	
Social Welfare 206. Man in Society	3	
Anthropology 103. Cultural Anthropology	3	
Urban Studies 201. Urban Morphology	3	
Urban Studies 202. Introduction to Housing	3	

PROGRAM IN ADMINISTRATION OF JUSTICE AND PUBLIC SAFETY

CARROLL R. HORMACHEA, Program Advisor

William A. Bechtel / James Hague / Sture V. Westerberg

Part time—Michael Morchower

The major objective of this program is to prepare men and women for professional careers in the areas of public safety and the administration of justice. In addition to preparation for careers at the federal, state, and local levels of public safety, the student may choose to prepare for careers in industry, commerce, or the military service; or he may continue his studies at any of a number of universities offering graduate work in these areas. Furthermore, this program offers the in-service police officer and others engaged in public safety the opportunity to enhance their professional careers through further education.

The Program in Administration of Justice and Public Safety offers work leading to the Bachelor of Science degree in Law Enforcement (123 semester hours.) The Associate in Arts in Law Enforcement is recommended for those students seeking a career oriented course of study.

Students majoring in administration of justice and public safety receive a broad educational background as well as professionally oriented courses in the major field. Curricula in law enforcement are in no way intended to take the place of a basic police academy or its technical courses.

In addition to the requirements listed below, students majoring in the law enforcement curriculum must present the following courses to complete degree requirements: Law Enforcement 109, 215, 216, and 240. A maximum of 42 credit hours in the area of major concentration may be presented for the baccalaureate degree. A minimum of 45 credit hours of upper-level credits must be presented for graduation. (See "Degree Requirements" elsewhere in this catalogue.)

Curriculum in Law Enforcement**ASSOCIATE IN ARTS**

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Community Services 115-116. The American City	3	3
English 101-102. Composition and Literature	3	3
Mathematics 113. Survey of Finite Mathematics	3	—
Law Enforcement 109. Introduction to Law Enforcement	—	3
Sociology 101. General Sociology	3	—
Psychology 201. General Psychology	—	3
Political Science 201-202. American Government	3	3
	15	15

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Natural Science	4	4
Law Enforcement 309. External Causes of Crime	3	—
Law Enforcement 215-216. Police Organization and Administration	3	3
Law Enforcement 240. Criminal Investigation	—	3
Law Enforcement 360. Criminal Law	—	3
Psychology 304. Developmental Psychology	—	3
Electives	6	—
	<hr/> 16	<hr/> 16

BACHELOR OF SCIENCE*First Year (See Core Curriculum.)**Second Year (See Core Curriculum.)**Third Year*

Law Enforcement 309. External Causes of Crime	3	—
Law Enforcement 360. Criminal Law	—	3
Law Enforcement 371. Criminalistics	3	—
Law Enforcement 375. Evidence and Procedure	3	—
Political Science 201-202. American Government	3	3
Political Science 314. Constitutional Law	—	3
Psychology 304. Developmental Psychology	—	3
Electives	3	3
	<hr/> 15	<hr/> 15

Fourth Year

Law Enforcement 401. Supervision and Human Relations ..	3	—
Law Enforcement 450. Seminar	—	3
Law Enforcement 475-476. Law Enforcement Practicum	3	3
Law Enforcement Electives	3	—
Social Science Electives	3	3
Electives	3	6
	<hr/> 15	<hr/> 15

PROGRAM IN RECREATION

JAMES R. SELLERS, Acting Program Chairman

Emma Lou Brown / Marion Hormachea / Wallace Van Zyl

Part time—Muriel Barbour / Jesse Reynolds

The Department of Recreation seeks to prepare men and women for positions of leadership in the professional field of recreation. Graduates may

find career opportunities in a variety of public, private, and voluntary recreation and allied agencies, including municipal recreation departments, hospitals, churches, community centers, youth-serving agencies, correctional institutions, and the armed services. The student is prepared to pursue graduate study in the field of recreation at a number of major universities.

The student receives a broad background in the field of recreation and has the opportunity to develop major specialized interests. A general education background complements the curriculum. The student develops program-skills through study in various areas including art, drama, crafts, music, dance, sports, and other selected activities. Many community agencies offer part-time paid training employment to qualified students in this program.

The Department of Recreation offers the degree of Bachelor of Science (125 semester hours). Upon completion of the curriculum, graduates are eligible for professional registration by the Virginia Board for Registration of Recreation Personnel.

For the Bachelor of Science degree in Recreation, the candidate must present a minimum of 125 hours, including the following courses in recreation and related areas: Recreation 205, 207, 306, 405, 406, 418, 450; 9 hours selected from Recreation 310, 343, 344, 351, 361, 362, 370, 420; 9 hours of Directed Practice In Recreation, (Recreation 211, 311, 411); and 15 hours in program activity skills (crafts, art education, drama, physical education). A maximum of 42 credits in the area of major concentration may be presented for the baccalaureate degree. A minimum of 45 upper-level credits must be presented for graduation. (See "Degree Requirements" elsewhere in the catalogue.)

First Year (See Core Curriculum.)

Second Year (See Core Curriculum.)

	Credits	
	1st Sem.	2nd Sem.
<i>Third Year</i>		
Program Activity Skills	3	3
Recreation 211, 311. Directed Practice in Recreation	3	3
Recreation 306. Field of Recreation and Group Work	—	3
Recreation Electives	6	3
Electives	3	3
Physical Education	1	1
	16	16
<i>Fourth Year</i>		
Program Activity Skills (Upper Level)	3	3
Recreation 405-406. Group Leadership	3	3
Recreation 411. Directed Practice in Recreation	3	—
Recreation 418. Administration in Recreation Agencies	3	—
Recreation 450. Seminar in Recreation	—	3
Electives	3	6
	15	15

REHABILITATION COUNSELING

RICHARD E. HARDY, Program Chairman

Paul Biles / Craig R. Colvin / John G. Cull / John D. Hutchinson
George R. Jarrell / J. Treacy O'Hanlan / John H. Wallace / Keith C. Wright
Part time—Robert L. Brocklehurst, Jr. / Alfons Busza / S. James Cutler
Alfred A. Dofflemyer / James B. Funkhouser / Ann F. Houston
Charles H. Merritt

The Department of Rehabilitation Counseling was established in 1955 to provide graduate education in rehabilitation counseling. The Graduate Program in Rehabilitation Counseling prepares prospective rehabilitation counselors for employment in state-federal rehabilitation programs and public and private agencies. Graduates work in rehabilitation units in mental hospitals, correctional institutions, public school, private and public rehabilitation centers, sheltered workshops, adjustment centers, social service agencies, and other organizations serving persons who are mentally, emotionally, socially, or physically handicapped for employment. The program also provides advanced education for persons presently employed in agencies and facilities offering services to handicapped persons.

Emphasis is placed upon professional education for developing the skills and knowledge necessary for effective rehabilitation counseling of handicapped persons. The variety of activities performed by rehabilitation counselors necessitates a highly diversified program. In addition to the development of a broad understanding of human behavior, techniques of individual and group counseling, interpersonal relations, vocational appraisal and adjustment, caseload management, and use of community resources in facilitating the rehabilitation of mentally, emotionally, socially, and physically handicapped persons are stressed. Graduate study in this department leads to the master of science degree in rehabilitation counseling. A limited number of federal stipends are available to qualified students.

The Department of Rehabilitation Counseling issues a separate catalogue describing degree requirements and courses offered. A copy of this catalogue will be sent on request.

SOCIAL WELFARE

LOIS WASHER, Program Chairman

Jean P. Boone / Jeanne Diana / Margaretta Neumann / Wayne Newton
Ruth J. Watson / Thomas Williamson

The department encourages the student to acquire a broad education and a professional orientation, reflecting a sense of social responsibility and a knowledge and understanding of social welfare issues, needs, and services. The student, through study, field experience, and research may thereby be prepared to live effectively as an individual and a citizen; to enter employment and perform competently in social welfare positions; and to enter graduate education in social work or related areas.

Students take the Community Services Curriculum Program in the first two years. Those who expect to major in social welfare should take Social Welfare 201—Social Welfare As An Institution, Social Welfare 202—The Profession of Social Work, and Social Welfare 206—Man in Society as electives in their first two years. If they have not done so they will have to include them in their third year.

A total of 126 credits is required for the baccalaureate degree in social welfare. Of these no more than 42 may be in courses labeled as social welfare. A minimum of 45 upper-level credits must be presented for graduation. (See "Degree Requirements" elsewhere in this catalogue.) At least 9 of the elective credits should be in the humanities and 15 in the social sciences.

First Year (See Core Curriculum.)

Second Year (See Core Curriculum.)

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>Third Year</i>		
Economics 203. Introduction to Economics	3	—
English (any two courses)	3	3
History (any two courses)	3	3
Social Welfare 201. Social Welfare As An Institution	3	—
Social Welfare 202. Profession of Social Work	—	3
Social Welfare 206. Man in Society	—	3
Social Welfare 305-306. Interventive Methods in Social Welfare	3	3
	<hr/> 15	<hr/> 15
<i>Fourth Year</i>		
Psychology (any upper level course)	3	—
Social Welfare 401. Issues in Social Welfare	3	—
Social Welfare 411, 412. Directed Practice in Community Agencies	3	3
Sociology 318 or 402. Social Thought or Social Theory	3	—
Sociology 420. Research Methods	—	3
Elective in Social Welfare	—	3
Electives in upper-level classes	6	6
	<hr/> 18	<hr/> 15

PROGRAM IN URBAN STUDIES

DAVID L. AMES, Program Chairman

Budd Hebert / John Moeser / Wayne Newton / Joseph Stevens / Ufere Torti
Wallace Van Zyl / Harland Westermann

The School of Community Services offers a number of service courses in the field of urban studies. These courses are designed to provide the

student an in-depth study of a variety of topics which relate to urban development and problems attendant thereto.

Urban studies courses are available to all members of the University community.

COURSES IN COMMUNITY SERVICES

Community Services 115-116 The American City Continuous course; 3 lecture hours. 3-3 credits. • A general survey of the phenomenon of urbanization in the United States. Special emphasis is given to: the evolution of cities; the urban experiment in America; the functions of cities and their physical development; the urban economic base; the nature of the city as a society; public institutions; and urban governance.

Community Services 201 Perspectives in Community Services Semester course; 3 hours. 3 credits. • An exploration of the interactive roles of the community service worker, the elected official and the civil servant; the humanistic values of these professions seen in the context of relevant social assumptions.

Community Services 202 Understanding the City Semester course; 3 lecture hours and 5 community laboratory hours. 4 credits. • Faculty representing all programs of the School of Community Services. The study of urbanization; the urban environment and human bionomics; the city as an artifact; urban systems; the city as an economy; the nature of the social crisis; municipal finance; urban politics and governance; the nature of urban and regional planning. The laboratory work consists of a number of community study projects, each of which will be conducted as a separate planning studio. Each such planning studio will be limited to 15 students who will undertake the study and planning solution of a particular local community problem.

Community Services 455 (555) Community Correctional Programs 3 credits. • A comprehensive overview of community correctional systems is offered. Probation and parole are covered in detail.

COURSES IN LAW ENFORCEMENT

Law Enforcement 109 Introduction to Law Enforcement Both semesters; 3 hours. 3 credits. • Development of the police agency in the United States; police agencies at the federal, state, and local government levels are previewed. The interaction of the police and the public is observed.

Law Enforcement 215-216 Police Organization and Administration Continuous course; 3 hours, 3 credits each semester. • Introduction to police organization, including records, personnel, public relations, executive control, communication, and training. A consideration of departmental structure, including prevention, traffic control, investigation, and operational functions.

Law Enforcement 309 External Causes of Criminal Behavior First semester; 3 lecture hours. 3 credits. • Social factors and processes in criminal

and delinquent behavior; regional, cultural, institutional and group variables; personal and group alienation; social-psychological conditions of criminal careers and organized crime.

Law Enforcement 315 Law Enforcement and the Juvenile Offender Second semester; 3 lecture hours. 3 credits. • The handling of the juvenile offender by the police. Discussion of court decisions affecting juvenile procedures. The juvenile court and detention.

Law Enforcement 340 Criminal Investigation Second semester; 3 hours. 3 credits. • A basic theoretical approach to the investigation of crime, identifications of persons, collection and preservation of evidence, elements of legal proof in the submission of evidence, and use of crime laboratory services.

Law Enforcement 342 Police Community Relations Second semester; 3 hours. 3 credits. • Examination of the factors contributing to friction or cooperation between the police and the community, with emphasis on minority groups, political pressures, and cultural problems. Community organization and social responsibility of the police.

Law Enforcement 351 Correctional Administration 3 hours. 3 credits. • History and theories in correctional administration. Various correctional systems throughout the world are compared and evaluated. The role and relationships of correctional institutions as well as parole and probation in society at large.

Law Enforcement 352 Crime and Delinquency Prevention Second semester; 3 hours. 3 credits. • Responsibilities, organization, and functions for problems in crime prevention, plans, and programs. Citizen-cooperation programs will be discussed.

Law Enforcement 360 Criminal Law Second semester; 3 hours, 3 credits. • The study of the elements of crimes, felonies, misdemeanors, the judicial system, enforcement of the law, apprehension of criminals, and their prosecution.

Law Enforcement 371 Criminalistics First semester; 3 hours. 3 credits. • Studies in the scientific analysis, identification, and comparison of physical evidence.

Law Enforcement 375 Criminal Procedure and Evidence First semester; 3 hours. 3 credits. • Principles, duties, and mechanics of criminal procedure as applied to the areas of arrest and search and seizure. Study and the evaluation of evidence and proof; kinds, degree, admissibility, and competence. The course specifically deals with rules of evidence and procedure of particular importance at the operation-level of law enforcement.

Law Enforcement 401 Human Relations and Supervision First semester; 3 hours. 3 credits. • A study of supervision and the human problems and relations involved as well as the management of the personnel function. Included are the source of authority, organizational communication, organizational change, discipline as a positive force for control, and principles of delegation and coordination.

Law Enforcement 407 Industrial and Retail Security First semester; 3 lecture hours. 3 credits. • The organization and management of industrial security and plant protection units; security, police, administrative, legal, and technical problems; special problems of government contract security; survey of specialized programs in retail security; insurance and credit investigation; transportation security; private guard and alarm service; regulatory and licensing agencies.

Law Enforcement 415 Traffic Planning and Management First semester; 3 hours. 3 credits. • Contemporary and future problems of traffic, accident investigation, traffic regulation; enforcement direction, pedestrian, intersection, and parking control; records and analysis; selective enforcement; engineering and education. Traffic law and court procedure.

Law Enforcement 424 Society and the Law Second semester; 3 hours. 3 credits. • A study of the role of law as a formal sanction in society with some emphasis on the function of the American system of the administration of justice.

Law Enforcement 450 Seminar in Law Enforcement Second semester; 3 hours. 3 credits. • Required of all seniors in law enforcement. An overview of the professional aspects of law enforcement as well as specialized research and surveys in the field.

Law Enforcement 475-476 Law Enforcement Practicum Both semesters; 3 credits each semester. • Provides the student with experience in field situations in an approved law enforcement or related agency under the supervision of a professional supervisor.

COURSES IN RECREATION

In addition to the basic recreation courses listed below, majors take appropriate courses in several related departments.

For recreational skills, see Departments of Crafts, Dramatic Arts, Painting and Printmaking, Photography, Sculpture, Music, and Physical Education.

Recreation 205 Social Recreation First semester; 3 hours. 3 credits. • The planning and conducting of social recreation activities for all age and type groups. Parties and programs as tools for the overall development of the participants. Students conduct demonstration parties for various groups.

Recreation 207 Community Recreation First semester; 3 hours. 3 credits. • The functions and methods of recreation services as sponsored by the community, especially public auspices. Programs and leadership.

Recreation 211 Directed Practice in Recreation Semester course; 1 lecture hour and 5 laboratory hours. 3 credits. • Students are assigned on an individualized basis. Agency practitioners supervise students' work and evaluate their performance.

Recreation 306 The Field of Recreation and Group Work Second semester; 3 hours. 3 credits. • The various organizations sponsoring recreation and group programs. Employment qualifications, standards, and opportunities. Some lectures by visiting practitioners.

Recreation 310 Organized Camping Second semester; 3 hours. 3 credits. • The philosophy and methods of the organized camp programs, including administrative standards. Designed to prepare students for positions in private, voluntary agency, and public summer camps.

Recreation 311 Directed Practice in Recreation (See Recreation 211.)

Recreation 343 Education for Outdoor Recreation First semester; 3 hours. 3 credits. • Values and types of out-of-door programs for all age groups. Leadership and administrative principles and methods. Conservation education. Resident and day camps.

Recreation 344 Administration in Outdoor Recreation Second semester; 3 hours. 3 credits. • Principles and practices of administration in resident and day camps, outdoor day use areas, and school programs for outdoor education. Promotion, staff selection and supervision, budget control, insurance, construction and maintenance of facilities, and food management will be included in the principles and practices of camp administration.

Recreation 351 Recreation for the Disadvantaged First semester; 3 hours. 3 credits. • Special recreation services available for disadvantaged and poverty groups. Emphasis will be on the planning and coordinating of recreational programs for such groups as well as the implementation of such service.

Recreation 361 Recreation for the Ill and Handicapped First semester; 3 hours. 3 credits. • A study of special recreation services available for persons confined in hospital settings and the handicapped. Emphasis will be placed on the therapeutic value of recreation and the implementation of programs through community agencies.

Recreation 362 Recreation in Institutional Settings Second semester; 3 hours. 3 credits. • The function and application of recreation in various institutional settings such as residence homes for children and the aged, nursing homes, hospitals, training schools, and correctional institutions.

Recreation 370 Recreation for the Aged Second semester; 3 hours. 3 credits. • Recreation for the aged in various settings. Planning and implementing effective programs, facilities, and leadership in general community centers, as well as senior centers and retirement living complexes.

Recreation 405-406 Group Leadership Continuous course; 3 hours. 3-3 credits. • Principles and practices of social group work. Designed to give the student an understanding of group dynamics and skill in creating a purposeful leader-group relationship. Each student should be currently acting as a leader for some group.

Recreation 411 Directed Practice in Recreation (See Recreation 211.)

Recreation 418 Administration in Recreation Agencies First semester; 3 lecture hours. 3 credits. • Purposes and methods in administration. Program planning, physical facilities, budgeting, financing, and personnel practices for paid and/or voluntary staff.

Recreation 450 Seminar in Recreation Semester course; 3 lecture hours. 3 credits. • Required of all senior majors in recreation. Other students must have instructor's permission. Specialized research in the student's area of interest in recreation. Emphasis will be on the professional aspects of the field of recreation.

COURSES IN REHABILITATION COUNSELING (Undergraduate)

Rehabilitation Counseling 425 Introduction to Rehabilitation First semester; 3 hours. 3 credits. • Designed to give the student a comprehensive overview of the rehabilitation process, this course emphasizes the historical, philosophical, social, and legal aspects of rehabilitation. Special attention is devoted to the professional aspects of rehabilitation. The need for rehabilitation counseling and skills and functions of the rehabilitation counselor are also covered.

Rehabilitation Counseling 433 Directed Readings in Rehabilitation Both semesters; 3 hours. 3 credits. • For students who need strengthening in one of the core areas of rehabilitation counseling, i.e., the educational medical, psychological, social, or vocational areas. With the assistance and supervision of a faculty member, the student undertakes a survey research project involving extensive use of library facilities. A concentration of work in the student's own individual areas of need is required. The study experience must be synthesized in a paper, and a written or oral examination before a faculty committee must be passed.

Rehabilitation Counseling 439 Current Problems in Rehabilitation Both semesters; 3 hours. 3 credits. • A study of developments and implications resulting from rehabilitation research and demonstration activities. Agency programs related to staff improvement and expansion of rehabilitation services and facilities will also be considered as well as reviews of specific disability problems and trends in rehabilitation.

Rehabilitation Counseling 450 Principles, Methods, and Techniques in Rehabilitation Second semester; 3 hours. 3 credits. • Basic rehabilitation concepts, e.g., handicap and disability, employability, vocational adjustment, and placement are covered. Principles of case finding rehabilitation counseling, interpretation of case findings, and the rehabilitation plan also are emphasized.

Rehabilitation Counseling 456 Interpretative Processes in Rehabilitation Counseling Second semester; 3 hours. 3 credits. • Concerned with methodology of collection, analysis, synthesis, and effective utilization of educational, social, psychological, vocational, and medical information in the rehabilitation process.

Rehabilitation 459 A Survey of Rehabilitation of Blind and Visually Impaired Individuals Second semester; 3 hours. 3 credits. • Designed to acquaint the student, rehabilitation counselors, and other personnel working in related areas with problems encountered in the rehabilitation of blind and partially-sighted persons.

COURSES IN SOCIAL WELFARE

Social Welfare 201 Social Welfare as an Institution First semester; 3 hours. 3 credits. • A critical analysis of the institution of social welfare in modern society and its relationship to other institutions. The continuum of concepts and values is considered in the light of individual and societal needs.

Social Welfare 202 The Profession of Social Work Second semester; 3 hours. 3 credits. • A description of social work practice in modern society with an examination of the concept of the professional role. Goals, values, skills, and agency settings are examined. Emphasis is placed on the function of social work in the broad area of social welfare.

Social Welfare 206 Man in Society Semester course; 3 hours. 3 credits. • An overview of man in society as he seeks to meet his basic human needs. An examination is made of the dynamics of man's maturational and developmental processes from birth to death, synthesizing knowledge from the behavioral sciences.

Social Welfare 301 Child Welfare Semester course; 3 hours. 3 credits. • A general introduction to the field of child welfare, including public and private services to dependent, neglected, delinquent, and physically, mentally, and emotionally handicapped children.

Social Welfare 303 Interviewing Semester course; 3 hours. 3 credits. • A general introduction to the nature, problems, and techniques of interviewing as conducted in various settings. Emphasis throughout will be upon the human relationships involved.

Social Welfare 305-306 Interventive Methods Year course; 3 hours. 6 credits. • A general introduction to the nature and use of casework, community organization, and group work as the three major social work methods that seek to help people function effectively in their environment. The concepts of social change and the prevention of social dysfunction. Emphasis throughout will be upon human relationships involved.

Social Welfare 324 The Family as a Group of Interacting Personalities Semester course; 3 hours. 3 credits. • Values and problems of family living with emphasis on the influence of social change and the conservation of family life in modern civilization.

Social Welfare 401 Current Issues in Social Welfare Semester course; 3 hours. 3 credits. • Selected issues are examined. Resource persons from the community will offer representative viewpoints. Possible approaches which emerge are studied and evaluated.

Social Welfare 405-406 Group Leadership Continuous course; 3 hours. 3-3 credits. • Principles and practices of social group work. Designed to give the student an understanding of group dynamics and skill in creating a purposeful leader-group relationship. Each student should be currently acting as a leader for some group.

Social Welfare 411, 412 and 413 Field Experience Semester courses; 1 seminar hour and 5 laboratory hours. 3 credits. • Offers the student the opportunity to observe and participate within a specific service setting in the community. Under the direction of an agency field instructor, learning is systematically related to principles and theories presented in the classroom. Provides a somewhat limited career preview while allowing the student to develop and apply skills in working with people.

Social Welfare 434 Community Organization Second semester; 3 hours. 3 credits. • The nature of community organization examined carefully in the light of community trends and problems in our society. Assumption and principles.

Social Welfare 439 Ageing in Our Society First semester; 3 hours. 3 credits. • Personal, social, and economic needs of old people. Adjustment to the process of ageing which will be of interest to persons in any age group.

COURSES IN URBAN STUDIES

Urban Studies 201 Urban Morphology Semester course; 3 lecture and 4 laboratory hours. 5 credits. • A study of the growth and development of the physical city. The various urban patterns are analyzed to determine the effects of form and design. A laboratory is included to give the student an opportunity to study urban patterns through field exercises and archival research in land use mapping and evaluation.

Urban Studies 202 Introduction to Housing Semester course; 3 hours. 3 credits. • A general survey of the housing market and cycle forces; the filtering process; special characteristics of real estate; the interdependence of public and private real estate; and urban land acquisition problems.

Urban Studies 302 Community Growth and Development Semester course; 3 hours. 3 credits. • A study of the manner in which neighborhoods, communities, cities, and metropolitan regions grow as socioeconomic and political units; innercity-suburban development stages; the problems associated with multiple-governments; and an evaluation of "optimum city size" and "new towns." Consideration will be given to modern concepts of decentralization.

Urban Studies 303 Introduction to Urban Systems Semester course; 3 hours. 3 credits. • Analysis of the various social economic, governmental, and physical facilities systems of which the urban community is comprised and of the manner in which these various systems interact to give a place its particular personality. The study provides an elementary understanding of cause-effect relationships between various systems and externalities which affect them.

Urban Studies 321 Planning Information Systems Semester course; 3 lecture hours and 4 laboratory hours. 4 credits. Prerequisites: Mathematics 113 and 213. • Determination of data which are of significance in the planning and public management processes; methods of data collection and maintenance as a current inventory of place facts; methods of analysis for various types of planning and public management problems.

Urban Studies 322 The Use of Urban Land Semester course; 2 lecture hours and 4 laboratory hours. 4 credits. • Land use attitudes in Europe and North America; land use competition; reconciliation of discordant uses by the judiciary; zoning powers and the zoning trio; departures from established ordinances; property rights; aesthetics as a control; regulating land use to the tempo and sequence of growth.

Urban Studies 326 Contemporary Urban Problems Semester course; 3 hours. 3 credits. • A study of urban affairs with particular reference to complex urban problems. An inventory will be made of contemporary urban problems and of devices for dealing effectively with them. Special attention will be given to new concepts, such as multi-jurisdictional planning.

Urban Studies 327 Seminar in Urban Problems and Solutions Semester course; 3 hours. 3 credits. Prerequisite: Political Science/Urban Studies 326 or consent of instructor. • A continuation of Political Science/Urban Studies 326 with emphasis on possible solutions to the problems of urban communities.

Urban Studies 351 Urban Transportation Systems Semester course; 3 lecture hours. 3 credits. • An examination of urban requirements for mobility; transportation systems; problems of traffic; mass transit; and new concepts for moving people and goods.

Urban Studies 352 The Urban Economic Base Semester course; 3 lecture hours. 3 credits. • An examination of the manner in which the urban community is structured as a micro-economy; the requirements for continued economic growth; the urban economic hierarchy; and the differences of economic base development as these are exhibited from place to place. The role of the industrial park and the industrial district; the development of the CBD: the need for labor training as a community response will be investigated; and the role of the planner as an agent of economic development.

Urban Studies 361 Public Housing and Urban Renewal Semester course; 3 hours. 3 credits. • A study of the critical shortage of adequate shelter for low income groups; the response of the federal government to these needs; an evaluation of public housing and the Model Cities Program; and the association between homes and jobs.

Urban Studies 362 Principles of Residential Subdivision Semester course; 3 lecture hours. 3 credits. • A study of the design and engineering of residential subdivisions; the functions of the land developer; tract evaluation; and purchasing and financing; planning the building operation; and the problems confronting the developer.

Urban Studies 421 Operations of Municipal Agencies Semester course; 3 hours. 3 credits. • A study of the organizational structure of the various municipal agencies; their missions; the manner in which they operate; and the problems confronting them.

Urban Studies 422 Programming and Budgeting Semester course; 3 hours. 3 credits. • An examination of the manner in which governments determine program priorities and allocate public resources to carry out these programs. Special consideration is made of the need to establish long-term planning policies so that orderly funding can be realized.

Urban Studies 431, 432 Introduction to Urban and Regional Planning Year course. 3 hours. 6 credits. • Introduction to history, concepts, and activities of urban planning. Planning ethics and responsibilities. First semester: topical planning concepts. Second semester: regional planning concepts. Trends in urbanization and the planning responses.

SCHOOL OF EDUCATION

ARNOLD P. FLESHOOD, Dean

HOWARD L. SPARKS, Associate Dean-Graduate Study

RICHARD S. VACCA, Assistant Dean-General Operation

The School of Education provides professional preparation for students planning to teach in elementary and secondary public schools—with particular emphasis placed on urban education. Programs of teacher education combine comprehensive studies in general education with professional preparation and a concentration in one or more special fields of study. Each program is designed to contribute to both the personal and professional development of the prospective teacher.

Degree Programs in Teacher Education

The preparation of teachers is a joint responsibility of staff in both the subject fields and professional education, with curricula planned cooperatively by the various departments and the School of Education. Bachelor of Science degrees are awarded in Elementary Education, Distributive Education, Secondary Education, Physical Education, and Special Education. Bachelor of Fine Arts degrees are awarded in Art Education and Drama and Speech Education, while Bachelor of Music Education degrees are awarded to those completing requirements in music.

Students receiving their degrees in any one of the fields of study listed above may be eligible to receive the collegiate professional certificate from the Virginia State Department of Education if recommended by the School of Education. This certificate is a five-year renewable certificate which fulfills the basic requirements for teaching in the public schools of Virginia.

State teaching scholarships are available for those who will teach at least one year in the public schools of Virginia. For information relating to scholarships or requirements for endorsement for teaching or requirements for renewal of certificates, the prospective student is advised to write or call the Dean of the School of Education or the Division of Teacher Certification in the Virginia State Department of Education in Richmond. Students awarded teaching scholarships are expected to complete all requirements, including student teaching.

Graduate programs leading to the Master of Education degree are available in Administration and Supervision, Counselor Education, Elementary Education, Distributive Education, and Special Education. For details see the **Graduate Bulletin** available from the School of Education, Office of Graduate Studies, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220.

General Certification Requirements for Teachers

Specific requirements for certification are included in the curriculum of each department.

A. Humanities—12 semester hours

English composition (required) and the balance from any of the following fields: foreign language, literature, speech, fine arts, music, and philosophy.

B. Social Science—12 semester hours

American history (required) and the balance from any of the following fields: history, anthropology, sociology, economics, political science, geography, and psychology.

C. Laboratory Science and Mathematics—12 semester hours

(At least one course in each area.)

D. Health and Physical Education—4 semester hours or equivalent

(At least one course in each area.)

E. Eight additional semester credits selected from areas A, B, and C above to total 48 semester hours in general education.

General Professional Requirements (See each departmental curriculum.)

Requirements for the collegiate professional certificate include suitable courses of study in the following areas:

1. Human Growth and Development—3 semester hours*
2. Principles of Instruction and Organization of Subject Content and Materials—6 semester hours
3. Student Teaching—6 semester hours

* Early childhood education teachers must take an additional three hours in Area 1, and elementary teachers must have three hours additional in either Area 1 or 2.

Student Requirements

Students in the School of Education are expected to complete a minimum of 124 credits and to maintain a minimum of a 2.0 average or above in all course work attempted. Students failing to meet the latter requirement at the beginning of the junior year may not be permitted to enroll in professional course work, and students failing to meet the requirement at the beginning of the senior year may not be permitted to enroll for student teaching.

Suggested courses of study for various degrees and subject fields will be found under appropriate departmental headings in this catalogue. All students planning to enter teacher preparation programs will register in the School of Education although they will work with faculty advisers in the special subject fields.

Student Teaching

A course in student teaching in the public schools of Virginia is required of all students seeking a degree in education with the exception of those students who have had two or more years of successful teaching experience in the public schools. An alternate plan is available for students with such previous experience. Refer to specific departments for details regarding student teaching.

DISTRIBUTIVE EDUCATION

VIVIEN KING ELY, Chairman of the Department

Howard G. Ball / Kay B. Brown / Jean M. Epps / Bettie K. Overton
Rebecca Hawkins

The purpose of the distributive teacher education curriculum is to prepare distributive education teacher-coordinators who are members of local public school staffs and who teach marketing and related subject matter to students preparing for employment in the field of distribution.

The teacher-coordinator coordinates classroom instruction with on-the-job training or with occupationally oriented learning activities. He is responsible for the distributive education program in the high school and for conducting an adult distributive education program in the community which he serves.

The curriculum includes a directed occupational experience period of approximately 10 hours per week during both semesters of the sophomore year. During the summer preceding the senior year, all students are required to complete a minimum of 300 hours of occupational experience.

The senior year is devoted to instruction and field experiences in the professional area. Students spend the last semester of the senior year in assigned communities throughout the state where they complete individualized field work assignments in the business community, promote, and administer an adult class, and spend a minimum of 120 classroom hours in student teaching under the supervision of a qualified distributive teacher-coordinator.

Curriculum in Distributive Education

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Advertising 101. Principles of Advertising	3	—
English 101-102. Composition and Literature	3	3
Business 272. Principles of Marketing	—	3
Distributive Education 105-106. Education for Distribution ..	2	2
Laboratory Science Elective	4	4
Physical Education Elective	1	—
Retailing 205. Principles of Salesmanship	3	—
Retailing 215. Merchandise Information—Non-Textiles	—	3
	<hr/> 16	<hr/> 15

Second Year

Distributive Education 201-202. Directed Occupational Experience			2	2
Economics 203. Introduction to Economics			3	—
History 201-202. American History			3	3
Mathematics Electives			3	3
Psychology 201. General Psychology			—	3
Retailing 209. Display			3	—
Retailing 212. Personnel Techniques in Distribution			—	3
Retailing 220. Procedures in Store Operation			3	—
			<hr/> 17	<hr/> 14

Third Year

Business 360. Data Processing Principles	3	—
Business 474. Marketing Research	—	3
Business 421. Small Business Management	—	3
Distributive Education 302. Organization and Administration of Distributive Education	—	3
Health Education 385. School Health	3	—
Humanities Electives	3	3
Psychology 305. Educational Psychology	3	—
Education 300. Foundations of Education	—	3
Education 310. Supervised Practicum	—	3
Elective (300-400)	3	—
	<hr/> 15	<hr/> 18

	<i>Credits</i>	
	<i>1st</i>	<i>2nd</i>
	<i>Sem.</i>	<i>Sem.</i>
<i>Fourth Year</i>		
Education 488. Supervised Practicum—Advanced	—	3
Distributive Education 405. Methods of Teaching		
Distributive Education	3	—
Distributive Education 406. Techniques of Coordination	—	3
Distributive Education 413. Distributive Education Adult		
Programs	—	3
Education 407. Audio-Visual Education	3	—
Education 401. Pupil Evaluation	3	—
Education 486. Supervised Teaching-Secondary	—	6
Humanities Elective (300-400 level)	3	—
Retailing 407. Directed Retailing and Marketing Experience ..	3	—
	15	15

ELEMENTARY EDUCATION

EVELYN FULBRIGHT, Chairman of the Department

Dolores Braxton / Dorothy T. Burton / Jane Cecil / Raymond Garguilo
 Clara G. Houghton / Michael Lahey / Alice McCartha / Elizabeth McPherson
 Charles Sharman / William Swyers

The Department of Elementary Education provides pre-service preparation for teachers of children in elementary school. Programs are available which lead to certification in teaching in elementary or early childhood education programs. A special curriculum also provides for courses of study with special preparation in elementary school library work. These courses may be taken as electives and/or substituted for certain prescribed courses with the approval of the student's adviser.

Curriculum in Elementary Education

	<i>Credits</i>	
	<i>1st</i>	<i>2nd</i>
	<i>Sem.</i>	<i>Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology		
or		
Chemistry 103-104	4	4
English 101-102. Composition and Literature	3	3
History 101-102. History of Civilization		
or		
History 103-104. History of Modern Europe	3	3

	Credits	
	1st Sem.	2nd Sem.
Mathematics 105-106. Basic Mathematics		
or		
Mathematics 103-104	3	3
Physical Education	1	1
Approved Electives	3	3
	17	17
<i>Second Year</i>		
English 201.202. Western World Literature	3	3
History 201-202. American History	3	3
Economics 203. Introduction to Economics	—	3
Geography 301 or 302. Principles of Geography		
or		
other approved geography course	—	3
Psychology 201. General Psychology	3	—
Education 300. Foundations of Education	—	3
Physical Science 296. Survey of Physical Science	3	—
Approved Elective	3	—
	15	15
<i>Third Year</i>		
Art Education 301. Art for Elementary Teachers	3	—
Education 301. Human Development and Learning		
or		
Education 302. Child Growth and Development	3	—
Education 310. Practicum	1-3	—
Education 351, 428/English 351, 428. Children's Literature	3	3
Drama 308. Speech for Teachers	—	3
Physical Education 390. Physical Education for Teachers ..	3	—
Psychology 305. Educational Psychology	—	3
Music 485. Music for Elementary Teachers	—	3
Approved Electives (300-400 level)	3	3
	16-18	15
<i>Fourth Year</i>		
		A B
*Education 420. Elementary School Curriculum	—	3 —
*Education 421. Methods in the Elementary School	—	3 —
Education 426. Teaching of Reading	3	— —
*Education 485. Supervised Teaching—Elementary	—	— 6
Health Education 385. School and Community Hygiene ..	3	— —
*Education 490. Seminar	3	3 —
Approved Electives (300-400 level)	9	— —
	18	15

* Must be taken first semester of the senior year.

Curriculum in Early Childhood Education

This program is identical with the elementary education curriculum for the first two years. The third and fourth year courses are shown below.

	Credits	
	1st Sem.	2nd Sem.
<i>Third Year</i>		
Art Education 301. Art for Elementary Teachers	—	3
Education 302. Child Growth and Development	3	—
Education 310. Practicum	1-3	—
Education 426. Teaching of Reading	—	3
Education 350. Early Childhood Literature	3	—
Education 428. Children's Literature	—	3
Drama 308. Speech for Teachers	—	3
Physical Education 390. Physical Education for Teachers ..	3	—
Psychology 305. Educational Psychology	3	—
Music 485. Music for Elementary Teachers	3	—
Elective (300-400 level)	—	3
	16-18	15
<i>Fourth Year</i>		
*Education 415. Early Childhood Programs	—	3
*Education 416. Early Childhood Procedures	—	3
*Education 485. Supervised Teaching-Early Childhood Education	—	6
*Education 490. Seminar	—	3
Health Education 385. School and Community Hygiene ...	3	—
Approved Electives	12	—
	15	15

HEALTH AND PHYSICAL EDUCATION

GEORGE B. DINTIMAN, Chairman of the Department

Edward P. Allen / O'Dean Ampolo / Rachel N. Anderson / Bill Chambers
Phillip R. Coppage / Nancy Driscoll / Barney Groves / Clarence G. Jones
George D. Magill* / Jude Pennington / Elizabeth Royster / Jack Schiltz

Part time—Charlotte Birindelli / Juliet Crump

The Department of Health and Physical Education has as its major responsibilities: (1) the professional preparation of physical education teachers and coaches, (2) the conduct of the service program to meet the University graduation requirement of majors in various areas, and (3) the administration of a broad intramural, extramural, and recreational sports program for all students and faculty.

* On educational leave.

The major program is designed to prepare young men and women for positions as teachers of health and physical education in elementary and secondary schools. Successful completion of the approved program leads to certification by the Commonwealth of Virginia and meets certification requirements in practically all other states.

The physical education major also prepares the student for advanced study and graduate work leading into fields of college teaching, physical therapy, research with specialization in exercise physiology and motor learning as well as coaching in various sports.

Majors are not expected to be superior performers in all physical education activities; however, they are expected to develop considerable skill in each. All physical education majors are expected to be active members of the Physical Education Club.

Curriculum in Health and Physical Education for Men and Women

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology	4	4
English 101-102. Composition and Literature	3	3
Mathematics 103-104		
or		
Mathematics 105-196. Basic Mathematics	3	3
Physical Education 190. Introduction to Physical Education .	2	—
History 201 or 202. American History	—	3
Physical Education Activities	4	3
	<hr/> 16	<hr/> 16
<i>Second Year</i>		
Biology 205-206. Anatomy-Physiology	4	4
English 201-202. Western World Literature		
or		
English 203-204. English Literature	3	3
Psychology 200. General Psychology	3	—
Psychology 305. Educational Psychology	—	3
Education 300. Foundations of Education	3	—
Education 301. Human Development and Learning	—	3
Physical Education 390. Teaching Physical Education		
in Elementary Schools	—	3
Physical Education Activities	3	1
	<hr/> 16	<hr/> 17

Credits
1st 2nd
Sem. Sem.

Third Year

Economics 203. Introduction to Economics	—	3
Health Education 382. Driver Education	3	—
Physical Education 392. Kinesiology	3	—
Physical Education 397. Methods in Health Education and Physical Education	3	—
Physical Education 492. Physiology of Exercise	—	3
Physical Education 398. Curriculum in Health Education and Physical Education	—	3
Education 485. Supervised Student Teaching—Elementary	—	6
Physical Education 372, 373, 374, or 375. Theory of Coaching Elective (Women—Physical Education Elective)	2(W-3)	—
Approved Elective	3	—
Physical Education Activities	2	(W-1)
		<hr/>
		16(W-17) 15(W-16)

Fourth Year

Social Science 305, 307, 310, 343, 344, 418	3	—
Physical Education 499. Organization and Administration of Physical Education	3	—
Physical Education 493. Tests and Measurements in Health Education and Physical Education	3	—
Health Education 487. Problems in Health	—	3
Health Education 480. Safety Education and First Aid	—	3
Physical Education 439. Organization, Administration, and Supervision of Intramural Sports Program	—	3
Education 486. Supervised Student Teaching—Secondary	—	6
Approved Electives	6	—
Physical Education 372, 373, 374, or 375. Theory of Coaching Elective (Men only)	2	—
		<hr/>
		17(W-15) 15

Professional Activity Courses For Majors

Each major in health and physical education is required to complete 13-14 semester hours of activity courses. Activity course requirements may be met by taking, and passing, the required courses, or in certain courses, by qualifying for exemptions. Majors are advised to see the department chairman or an adviser for a description of the exemption system.

Professional activity courses are designed to elevate skill and knowledge beyond the intermediate level of proficiency. The final three weeks are devoted to specific problems and methods of teaching each activity.

MEN		Credits
Physical Education 120.	Principles of Conditioning	1
Physical Education 130.	Gymnastics I	1
Physical Education 140.	Team Sports I (Football, Soccer, Speedball, Volleyball, and Basketball)	2
Physical Education 141.	Team Sports II (Baseball, Track, and Field)	2
Physical Education 150.	Beginning Swimming, or, passing the swimmer's safety test	1
Physical Education 151.	Intermediate Swimming or possession of a current life saving certificate	1
Physical Education 250.	Life Saving	1
Physical Education 230.	Gymnastics II	1
Physical Education 231.	Gymnastics III	1
Physical Education 232.	Minor Sports (Tennis, Archery, Bowling, and Badminton)	1
Physical Education 233.	Wrestling, Handball	1
Physical Education 234.	Golf	1
WOMEN		
Physical Education 135.	Track and Archery	1
Physical Education 136.	Tennis and Bowling	1
Physical Education 145.	Softball	1
Physical Education 146.	Soccer and Volleyball	1
Physical Education 150.	Beginning Swimming or passing of the swimmer's safety test	1
Physical Education 151.	Intermediate Swimming or possession of a current life saving certificate	1
Physical Education 250.	Life Saving	1
Physical Education 160.	Elementary Modern Dance	1
Physical Education 168.	Folk and Square Dance	1
Physical Education 235.	Gymnastics I	1
Physical Education 236.	Gymnastics II	1
Physical Education 238.	Golf	1
Physical Education 245.	Hockey	2
Physical Education 246.	Basketball	2

Basic Requirements in Physical Education (For non-majors in physical education.)

Students in various departments who are required to complete 2-4 semester hours of physical education may elect as many courses as desired after fulfilling the basic requirement. Each one credit course meets three hours weekly for one semester. Courses are elected from Areas I, III, IV, V, VI, and VII unless the University Health Service specifically advises the student to take restricted activities (Area II). All incoming freshmen in departments requiring physical education are given the swimmers' safety test and a physical fitness test (men only) during orientation week. Non-swimmers are required to complete at least one full term of swimming instruction. Students who do not meet minimum motor fitness standards are advised to complete the course in foundations of physical education.

Group and individual instruction are provided in a teaching situation designed to bring about a change in attitude, skill in carry-over activities, physical fitness, optimum health, and understanding of the human body.

Both men and women are required to purchase a regulation style uniform for participation in the program.

AREA I: Foundations

Physical Education 101, 201 Foundations of Physical Education 1 lecture hour and 2 laboratory hours. 1 credit. • Designed to enable the student to understand the physiological, psychological, and sociological foundations of physical activity. Understanding the effect of activity on the human organism and participating in conditioning and motor activities designed to improve fitness and movement skills is the basis of the course.

AREA II: Restricted Activities

Physical Education 103-104, 203-204 Students with physical limitations preventing participation in the other areas are advised by the health service office to enroll in restrictive activities. Emphasis is placed on physical conditioning and development of recreational skills within the limitations imposed by the restriction.

AREA III. Individual and Dual Sports (1 credit each)

No more than two courses to be chosen from:

Physical Education 106 Archery/Fencing (Coeducational)

Physical Education 107 Badminton/Golf (Coeducational)

Physical Education 108 Elementary Gymnastics/Stunts and Tumbling

Physical Education 109 Beginning Horsemanship (Coeducational)

Physical Education 110 Fitness and Weight Control

Physical Education 111 Self Defense (Coeducational)

Physical Education 112 Tennis/Bowling (Coeducational)

Physical Education 113 Bowling (Coeducational)

Physical Education 208 Intermediate Gymnastics

Physical Education 209 Intermediate Horsemanship (Coeducational)

Physical Education 212 Advanced Tennis (Coeducational)

AREA IV: Team Sports (1 credit each)

No more than one course to be chosen from:

Physical Education 115 Cultural Activities of Other Lands—rugby, cricket, jai alai (Men)

Physical Education 116 Field Hockey/Volleyball (Women)

Physical Education 117 Soccer-Speedball/Basketball

Physical Education 118 Softball/Track and Field

Physical Education 119 Touch Football/Volleyball (Men)

AREA V: Aquatics (1 credit each)

The swimming placement test must be taken by all students prior to registering for a course in aquatics. A course in this area is optional if the student passes the swimmer's safety test.

Physical Education 150 Beginning Swimming

Physical Education 151 Intermediate Swimming

Physical Education 155 Skin and Scuba Diving (Coeducational)

Physical Education 250 Life Saving (Coeducational)

Physical Education 251 Water Safety Instructor's Course (Coeducational)

Physical Education 256 Synchronized Swimming (Coeducational)

Physical Education 258 Aquatics Sports and Games

AREA VI: Dance (1 credit each)

Physical Education 160 Elementary Modern (Coeducational)

Physical Education 163 Beginning Ballet (Coeducational)

Physical Education 165 Fundamentals of Tap Dancing

Physical Education 168 Folk and Square (Coeducational)

Physical Education 260 Intermediate Modern (Coeducational)

Physical Education 265 Fundamentals of Ballroom Dancing (Coeducational)

Physical Education 356 Organization and Administration of Aquatics

Physical Education 358 Theory and Techniques of Competitive Diving (Coeducational)

Physical Education 360 Advanced Modern Dance (Coeducational)

Physical Education 362 Dance Appreciation—3 credits (Coeducational)

AREA VII: Experimental Physical Education

Physical Education 100, 200 Experimental Physical Education 3 laboratory hours. 1 credit. • Designed as an elective to provide students with the opportunity to serve as voluntary subjects in studies related to their specific areas of interest and/or difficulties in the general areas of exercise physiology, health problems, health and exercise attitudes, motor learning, and

methodology. Studies are designed to uncover new information through controlled and experimental research as well as provide subjects with valuable insight and understanding.

Faculty and Student Recreation

Maximum use of all institutional facilities is encouraged to provide for supervised free play open to the entire student body, administration, and faculty on a periodic, scheduled basis. This voluntary program allows complete freedom of choice in all forms of acceptable leisure-time pursuits. Time schedules for recreational use of the swimming pool and gymnasium areas are posted each semester and a news letter forwarded to students and faculty, concerning special programs such as the noon recreational program, jog-for-your-life, swim-for-your-life, faculty involvement in intramural athletics, and other fitness programs.

Intramural Athletics

BARNEY GROVES, Director

All undergraduate male and female students registered in the University who are physically eligible may participate in any intramural activity, subject to the approved intramural rules and regulations. The intramural program supplements and complements the required program of physical education as a noninstructional laboratory experience that allows students to pursue formal competition in organized tournaments. Entries are submitted to the intramural office on or prior to the closing entry date for each activity. Both team and individual point and award systems are emphasized. Tournaments are held in the following activities:

Cross Country (Annual Cobblestone Classic held prior to Thanksgiving recess with turkeys awarded to each person of the winning five-member teams), free throws, basketball, physical fitness decathlon, swimming, water polo, wrestling, volleyball, softball, and touch football.

Intercollegiate Athletics

CHARLES W. NOE, Athletic Director

EDWARD ALLEN, Business Manager of Athletics

The coaching of the respective intercollegiate teams is in charge of the following individuals: baseball, Edward Allen; basketball, Charles W. Noe; women's hockey, Beth Royster; golf, Buck Jones; gymnastics, Jude Pennington; tennis, David Magill; women's tennis, Charlotte Birindelli; swimming, Jack Schiltz; wrestling, Ernie Venturino; crew, D. K. Waybright; cross country, staff; women's basketball, Charlotte Birindelli.

All undergraduate students at Virginia Commonwealth University (Medical College of Virginia and Academic Division) are eligible to compete in these sports subject to rules and regulations governing intercollegiate competition. Freshmen and varsity athletes are not excused from required physical education and cannot meet their department requirements by being members of a

varsity team. Varsity athletes who are members of a physical education class involving the same activity as the varsity sport are excused from the class during that portion of the unit.

SECONDARY EDUCATION

FRANCES M. BRIGGS, Chairman of Department

James W. Bailey / William Beck / Samuel Craver / William Goggin
William Glynn / Edward Haymes / Gerald Llewellyn / Michael Lohr
Alan McLeod / John Oehler / Howard Ozmon / Martin Tarter

The Department of Secondary Education provides pre-service preparation for prospective junior and senior high school teachers. The individual programs meet the Collegiate Professional Certification requirements of the Commonwealth of Virginia. Bachelor of Science programs are offered in the liberal arts fields of Biology, Chemistry, English, French, German, History-Social Studies, Mathematics, and Physics. All professional education courses are taken during the junior and senior years.

For B.S. programs in Art, Drama, and Music see page 40, School of Arts; for B.S. program in Business see page 185, School of Business; for B.S. programs in Distributive Education and Physical Education see page 233 and page 237 under School of Education.

The following requirements apply to all B.S. programs in the Department of Secondary Education except for B.S. program in Social Studies Education; see pages 251-253 for requirements in this area.

Prospective B.S. candidates are normally eligible for admission to the Department of Secondary Education, School of Education after completing their sophomore year. (Consult individual program descriptions for the specific number of semester hours required.) A student should normally initiate the transfer of major in the second semester of the sophomore year. Acceptance is contingent upon the student's having an acceptable quality point average, acceptable scores on any required tests, presenting an autobiographical sketch and having an interview with an appropriate faculty member in the Department of Secondary Education.

Block Program

Block plan for secondary education in liberal arts areas:

Prerequisites: Education 300—Foundations of Education
Education 301—Human Development and Learning

These two courses are required of all prospective secondary teachers. They should be taken in the junior year as prerequisites for the student teaching block in the senior year. The block program is divided into two eight-week sessions.

Three professional educational courses for nine semester hours credit are taken the first eight weeks followed by directed student teaching and

seminar for six semester hours credit the second eight weeks. Students enrolled in the block program will carry 15 hours credit. The block program is offered both fall and spring semesters.

Students in fields other than those noted above who are planning to teach at the secondary level should communicate with the Chairman of Secondary Education no later than the beginning of their junior year to assure that the Virginia certification requirements are being met and that the prerequisites to student teaching are included in their programs.

Student Teaching

Secondary student teaching may be completed during an eight-week period of either semester of the final year of study. During this period, the secondary student must complete a minimum of 120 hours of work and observation in the school of which 90 clock hours must be in actual teaching. The other eight weeks of the semester will consist of several block courses in education or in the student teaching field.

Curriculum in Biology Education (B.S.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology	4	4
Chemistry 101-102. General Chemistry and Qualitative Analysis	4	4
English 101-102. Composition and Literature	3	3
Mathematics 101-102. College Algebra and Trigonometry or		
Mathematics 113-114. Survey of Finite Mathematics	3	3
Physical Education	—	1
	<hr/> 14	<hr/> 15

Second Year

Biology 201. Vertebrate Morphology and/or		
Biology 202. Vertebrate Embryology and/or		
Biology 204. Invertebrate Zoology and/or		
Biology 207. Survey of Plant Kingdom and/or		
Biology 208. Botany of the Seed Plant	4	4
English 201-202. Western World Literature	3	3
Chemistry 301-302.* Organic Chemistry	4	4

* Approved Science Elective may be substituted.

	Credits	
	1st Sem.	2nd Sem.
History 201-202. American History	3	3
Psychology 201. General Psychology	3	—
Sociology 101. Survey of General Sociology	—	3
	<hr/> 17	<hr/> 17

Third Year

Biology 301. Plant Morphology I and/or		
Biology 302. Plant Morphology II and/or		
Biology 410. Spring Flora or		
an approved 300-400 level elective	4	4
Education 300. Foundations of Education	3	—
Education 301. Human Development and Learning	—	3
Physics 105-106.* General Physics	4	4
Electives (Social Sciences and/or Humanities)	6	6
	<hr/> 17	<hr/> 17

Fourth Year

		A	B
Biology (advanced electives)	8	—	—
Education 439. Curriculum in the High School	—	3	—
Education 440. Methods in Teaching High School Science	—	3	—
Education 486. Supervised Teaching—Secondary	—	—	6
Health Education 385. School and Community Health	3	—	—
Psychology 305. Educational Psychology	—	3	—
Elective	3	—	—
	<hr/> 14	<hr/> 9	<hr/> 6

Curriculum in Chemistry Education (B.S.)*First Year*

Biology 101-102. General Biology	4	4
Chemistry 101-102. General Chemistry and Qualitative Analysis	4	4
English 101-102. Composition and Literature	3	3
Mathematics 101-102. College Algebra and Trigonometry ...	3	—
Mathematics 200. Calculus with Analytic Geometry	—	4
Psychology 201. General Psychology	—	3
Physical Education	1	—
	<hr/> 15	<hr/> 18

* Approved science elective may be substituted.

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Chemistry 301-302. Organic Chemistry	4	4
English 201-202. Western World Literature or		
English 203-204. English Literature	3	3
History 201 or 202. American History	—	3
Mathematics 201-202. Calculus	4	3
Physics 205-206. General Physics	4	4
	15	17

Third Year

Chemistry 202. Quantitative Analysis	—	4
Chemistry 303. Physical Chemistry	3	—
Chemistry 304. Physical Chemistry	—	3
Chemistry L304. Physical Chemistry Laboratory	—	2
Education 300. Foundations of Education	3	—
Health Education 305. School and Community Hygiene	3	—
Electives—Music, Foreign Language, or Art	3	3
Electives—Social Science, Economics, History, Political Science, or Philosophy	3	3
	15	15

Fourth Year

		A	B
Education 301. Human Development and Learning	3	—	—
Education 439. Curriculum in the High School	—	3	—
Education 440. Methods in Teaching High School Science ..	—	3	—
Education 486. Supervised Teaching—Secondary	—	—	6
Psychology 305. Educational Psychology	—	3	—
Electives—Biology, Chemistry, Physics, or Mathematics	6-7	—	—
Electives—Humanities	6	—	—
	15-16	9	6

Curriculum in English Education (B.S.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology or		
Chemistry 103-104. Introduction to Modern Chemistry or		
Physics 105-106. General Physics	4	4

		<i>Credits</i>	
		<i>1st</i>	<i>2nd</i>
		<i>Sem.</i>	<i>Sem.</i>
English 101-102.	Composition and Literature	3	3
Foreign Language	201-202	3	3
History 101, 102.	History of Civilization		
or			
History 103, 104.	History of Modern Europe	3	3
Mathematics 101.	College Algebra and Trigonometry		
or			
Mathematics 113-114.	Survey of Finite Mathematics	3	3
Physical Education	.....	1	1
		<hr/>	<hr/>
		17	17

Second Year

English 203, 204.	English Literature		
or			
English 205, 206.	American Literature	3	3
Foreign Language			
or			
Approved Elective*	.....	3	3
History 201,202.	American History	3	3
Social Science Electives	.....	3	3
Electives	.....	3	3
		<hr/>	<hr/>
		15	15

Third Year

Education 300.	Foundations of Education	3	—
Education 301.	Human Development and Learning	—	3
English 303.	Modern Grammar	3	—
English 304.	Advanced Composition	—	3
English Electives**	.....	6	6
Health Education 385.	School Health	3	—
Speech 308.	Speech for Teachers	—	3
		<hr/>	<hr/>
		15	15

Fourth Year

		<i>Block</i>	
		<i>A</i>	<i>B</i>
Education 439.	Secondary School Curriculum	—	3
Education 441.	Teaching High School English	—	3
Education 486.	Supervised Teaching—Secondary (English)	—	6
English 401.	Shakespeare	3	—

* Students who present two high school units in a foreign language are required to complete the intermediate course only, but are encouraged to elect a second year. Those who present fewer than two high school units in a foreign language are required to complete both the beginning course and the intermediate course.

** At least three credits in American literature are required for the B.S. degree.

	<i>Credits</i>		
	<i>1st</i>	<i>2nd</i>	
	<i>Sem.</i>	<i>Sem.</i>	
English Elective	3	—	—
Psychology 305. Educational Psychology	—	3	—
Approved Electives	9	—	—
	15	9	6

Curriculum in French Education (B.S.)

	<i>Credits</i>		
	<i>1st</i>	<i>2nd</i>	
	<i>Sem.</i>	<i>Sem.</i>	
<i>First Year</i>			
Biology 101-102. General Biology			
or			
Chemistry 103-104. Introduction to Modern Chemistry			
or			
Physics 105-106. General Physics	4	4	
English 101-102. Composition and Literature	3	3	
French 201-202. Intermediate French	3	3	
Mathematics 101-102. College Algebra and Trigonometry			
or			
Mathematics 113-114. Survey of Finite Mathematics	3	3	
Second Foreign Language 101-102 or 201-202	3	3	
Physical Education	1	1	
	17	17	
<i>Second Year</i>			
English 203-204. English Literature	3	3	
French 301-302. Survey of Literature	3	3	
History 201-202. American History	3	3	
Psychology 201. General Psychology	3	—	
Second Foreign Language 201-202 or 301-302. Survey			
of Literature	3	3	
Approved Elective	—	3	
	15	15	
<i>Third Year</i>			
Economics 203. Introduction to Economics	3	—	
Education 300. Foundations of Education	3	—	
Education 301. Human Development and Learning	—	3	
French 303-304. Advanced Grammar and Composition	3	3	
French 305. French Civilization and 400 level course	3	3	
Health Education 305. School and Community Hygiene	—	3	
Second Foreign Language 205-206. Conversation and			
Civilization	3	3	
	15	15	

	Credits	
	1st Sem.	2nd Sem.
<i>Fourth Year</i>	A	B
French—12 credits in any courses numbered 400	12	—
Education 439. Methods and Curriculum in High School ...	—	6
Education 486. Supervised Teaching—Secondary	—	6
Approved Elective	3	—
Psychology 305. Educational Psychology	—	3
	15	9

Curriculum in German Education (B.S.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
Biology 101-102. General Biology		
or		
Chemistry 101-102. General Chemistry	4	4
English 101-102. Composition and Literature	3	3
German 201-202.*	3	3
Mathematics 101-102. College Algebra and Trigonometry		
or		
Mathematics 113-114. Survey of Finite Mathematics	3	3
Second Foreign Language 101-102 or 201-202	3	3
Physical Education	1	1
	17	17
<i>Second Year</i>		
English 203-204. Sophomore English Literature	3	3
German 301-302. Survey of German Literature	3	3
German 303-304. Advanced Grammar and Composition ...	3	3
History 201-202. American History	3	3
Second Foreign Language 201-202 or		
301-302. Survey of Literature	3	3
	15	15
<i>Third Year</i>		
Economics 203. Introduction to Economics	3	—
Education 300. Foundations of Education	3	—
Education 301. Human Development and Learning	—	3
German—12 credits (300 and above)	6	6

* Students entering with no German should plan to make up German 201-202 in Summer School.

	Credits	
	1st Sem.	2nd Sem.
Health Education 385. School and Community Hygiene	—	3
Psychology 201. General Psychology	3	—
Approved Elective	—	3
	15	15
<i>Fourth Year</i>		
		A B
Education 439. High School Curriculum and Methods	—	6 —
Education 486. Supervised Teaching—Secondary	—	— 6
Psychology 305. Educational Psychology	—	3 —
German—6 credits (300 and above)	6	— —
Approved Electives	9	— —
	15	9 6

I. B.S. Program in History and Social Science Education

The B.S. Program in History and Social Science (Social Studies) Education is provided for qualified students who are interested in teaching in junior and senior high schools. The program is administered by the School of Education's Department of Secondary Education in cooperation with the Department of History and Political Science of the School of Arts and Sciences.

Upon successful completion of requirements and on the recommendation of the School of Education students can receive a collegiate professional teaching certificate from the Virginia Department of Education. Because the School of Education's B.S. programs are State approved, this certification is accepted in a number of other states.

The number of students admitted to the B.S. Program in History and Social Science Education must be limited because of the purposes of the program and the availability of staff and facilities. Students should apprise themselves of the prerequisites and procedures for entering and completing the program outlined in the following sections.*

II. Prerequisites for B.S. Application—Social Studies

Freshmen and those with fewer than 64 semester hours of credit interested in teaching secondary social studies will not be admitted directly into the B.S. program. These students must apply to the Admissions Office for the B.A. program in history and express their possible interest in teaching. (Refer to that program under School of Arts and Sciences.) If accepted by the History Department the student will be assigned an academic advisor who will indicate courses needed

* A more detailed explanation of the purposes of the B.S. Program in History and Social Science Education, descriptions of tests required for admission to the program, and information concerning the application procedures are available from the Department of Secondary Education and the History Department.

in preparation for transferring to the B.S. program when the 64 semester hours required the freshman and sophomore years are completed.

III. Applying for Transfer of Major—Social Studies

After completing 64 hours of required courses listed in the program outline (including 30 hours of specified history and social sciences), students may apply for transfer to the B.S. in Social Studies Education. Application must be made with the Department of Secondary Education **not later** than four weeks after classes begin any semester after the 64 hours are completed. Normally, this would be during the first semester of the third year.

Applications will be processed during the semester in which the application is made. The decision to admit a student to the B.S. Program in History and Social Studies is based upon:

1. A required personal interview.
2. Acceptable grades that average better than a "C" in the major field.
3. At least a "C" average in all courses attempted at VCU.
4. The results of any teaching aptitude and academic tests administered by the department.
5. Recommendation from the History Department may be required in addition to the above criteria.

Notification of the Department of Secondary Education's action on the application will be made before the end of the semester in which applications were made.

An advisor in the Department of Secondary Education will assume the academic advisor's responsibility for those accepted beginning with the semester following acceptance. Students not admitted may continue in the B.A. program. If sufficient professional potential is not demonstrated in the professional courses, students may elect to return to the B.A. program. Normally, this can be done without loss of credit, although additional courses may be required.

IV. Transferees from other Colleges and Universities—Social Studies

If transferees have under 64 semester hours of transfer credit ("D's" and below are not transferable), the procedure described above should be followed. Those with 64 or more hours should contact directly the Department of Secondary Education.

Each application will be reviewed by both the Department of Secondary Education and the History Department and the prospective transferee will be made not later than four months before the anticipated transfer. The same requirements will apply to the transferee as to VCU students requesting transfer of major. These requirements will be provided upon request to the Department of Secondary Education.

V. Practice Teaching—Social Studies

No student can practice teach unless (1) the methods courses in secondary social studies are completed in the eight-week period immediately preceding student teaching, (2) a course in educational psychology has been completed, (3) at least 54 hours in approved history and social sciences have been completed. Certificate credit for student teaching will only be given after students complete the one-semester post student-teaching session required during the 4th or professional year. (Refer to program outline.)

VI. Endorsement of Degree Holders—Social Studies

Persons holding degrees and wishing to do practice teaching for a collegiate professional certificate must fulfill the same requisites or their equivalent for practice teaching that apply to undergraduates (see above). The post session courses, however, may be taken for graduate credit.

Curriculum in History and Social Science Education (B.S.)

	<i>Credits</i>	
	<i>1st</i>	<i>2nd</i>
<i>Sem.</i>	<i>Sem.</i>	
<i>First Year</i>		
History 101-102. History of Civilization		
or		
History 103-104. History of Modern Europe	3	3
English 101-102. Composition and Literature	3	3
Laboratory Science Electives (Biology 101-102		
or Chemistry 103-104 or Physics 105-106)	4	4
Foreign Language Electives 201-202. Level*	3	3
Geography Electives	3	3
	16	16
<i>Second Year</i>		
History 201-202. American History	3	3
Political Science 201-202. American Government	3	3
English 201-202 or 203-204 or 205-206	3	3
Mathematics 101-102. College Algebra and Trigonometry		
or		
Mathematics 113-114. Survey of Finite Mathematics	3	3
History Electives (upper level: see course listings for		
prerequisites)	3	3
Physical Education	1	1
	16	16

* The B.S. student must complete the equivalent of the 200 level of a single foreign language. Students who do not qualify by placement test for admission to the second year of language must complete the first and second year of a single language. Such a student will need at least one three-hour course in addition to the above curriculum.

	Credits	
	1st Sem.	2nd Sem.
<i>Third Year</i>		
History Electives. 300-400 level	3	3
Humanities 200-300 level or History or Approved Social Science Electives 300-400 level	3	3
Urban Studies or Political Science Electives 300-400 level ..	3	3
Economics 201-202. Principles of Economics	3	3
Education 300. Foundations of Education or Practicum	—	3
Approved Elective	3	—
	15	15
<i>Fourth Year (Professional Year)</i>		
	A	B
Health Education 385. School Health	3	—
Approved Educational Psychology or Human Development Elective	3	—
Education 442. Methods in Teaching High School History ..	3	—
Education 439. Curriculum in High School	3	—
Education 486. Supervised Teaching—Secondary	—	6
Post-Student Teaching Courses:		
Education 400. Directed Independent Study	—	6
Approved Professional or Academic Electives	—	6
	18	12

Curriculum in Mathematics Education (B.S.)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
English 101-102. Composition and Literature	3	3
Foreign Language or Computer Science 201. Introduction to Computing and Computer Science 202. Computers and Programming	3	3
History 201-202. American History	3	3
Mathematics 107. Algebra and Trigonometry	3	—
Mathematics 200. Calculus with Analytic Geometry	—	4
Physical Education	1	—
Approved Electives	3	3
	16	16

Credits
1st 2nd
Sem. Sem.

Second Year

Biology 101-102. General Biology		
or		
Chemistry 101-102. General Chemistry	4	4
English 201-202. Western World Literature		
or		
English 203-204. English Literature		
or		
English 205-206. American Literature	3	3
Mathematics 201-202. Calculus with Analytic Geometry	4	4
Mathematics 300. Sets, Logic, and the Real Number System	3	—
Mathematics 310. Linear Algebra	—	3
Approved Electives	3	3
	<hr/>	<hr/>
	17	17

Third Year

Education 300. Foundations of Education	3	—
Education 301. Human Development and Learning	—	3
Mathematics 405-406. Modern Geometry	3	3
Mathematics 313-314. Statistical Methods		
or		
Mathematics 413-414. Mathematical Statistics	3	3
Physics 207-208. University Physics I, II	4	4
Psychology 201. Introduction to Psychology	3	—
Approved Elective	—	3
	<hr/>	<hr/>
	16	16

Fourth Year

		A	B
Education 439. Methods and Curriculum in High School ..	—	6	—
Education 486. Supervised Teaching—Secondary	—	—	6
Health Education 385. School and Community Hygiene	3	—	—
Mathematics 401. Algebraic Structures	3	—	—
Mathematics Elective	3	—	—
Psychology 305. Educational Psychology	—	3	—
Approved Elective	3	—	—
	<hr/>	<hr/>	<hr/>
	12	9	6

Curriculum in Physics Education (B.S.)

The curriculum leading to a Bachelor of Science in Physics Education requires 124 credits, including 20 hours in mathematics and 22 hours in physics. All courses required for certification of secondary school teachers

are included. The required courses in physics are Physics 207, 208, and 307 (or equivalent), 301, 304, and 312. The required courses in mathematics are Mathematics 200, 201, and 202.

Credits
1st 2nd
Sem. Sem.

First Year

Biology 101-102. General Biology
or

Chemistry 101-102. General Chemistry	4	4
English 101-102. Composition and Literature	3	3
History 201-202. American History	3	3
Mathematics 107. Algebra and Trigonometry	3	—
Mathematics 200. Calculus with Analytical Geometry	—	4
Physical Education	1	1
Elective (Humanities)	3	—

17 15

Second Year

Sophomore English	3	3
Mathematics 201-202. Calculus with Analytical Geometry ...	4	4
Physics 207-208. University Physics I, II	4	4
Social Science	3	3
Elective (Humanities)	3	—
Approved Elective	—	3

17 17

Third Year

Mathematics Approved Electives	3	3
Education 300. Foundations of Education	3	—
Education 301. Human Development and Learning	—	3
Physics 301. Electricity and Magnetism	—	3
Physics 304. Classical Mechanics	3	—
Physics 307. University Physics III	4	—
Physics 312. Intermediate Laboratory	—	2
Approved Electives	3	3

16 14

Fourth Year

		A	B
Education 439. Curriculum in the High School	—	3	—
Education 440. Methods in Teaching High School Science ..	—	3	—
Education 486. Supervised Teaching—Secondary	—	—	6
Health Education 385. School and Community Hygiene	3	—	—
Physics Elective	3	—	—
Psychology 305. Educational Psychology	—	3	—
Approved Electives	8	—	—

14 9 6

SPECIAL EDUCATION

RIZPAH L. WELCH, Chairman of the Department

Nancy Fallen / Gay Goodman / Ada Hill / Valerie Kulesza / Thomas Lolley
William Vogel

The Department of Special Education provides pre-service preparation for teachers of educable and trainable mentally retarded children which meets the Collegiate Professional Certification requirements of the Commonwealth of Virginia. Optionally, dual preparation programs in special education of the mentally retarded—elementary education and special education of the mentally retarded—secondary education can be developed with the approval of the student's adviser and the head of the department involved.

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Biology 101-102. General Biology	4	4
English 101-102. Composition and Literature	3	3
History 101-102. History of Europe	3	3
Mathematics 105-106. Basic Mathematics		
or		
Mathematics 103-104. Freshman Mathematics	3	3
Sociology 201. General Sociology	—	3
Physical Education Activities	1	—
Elective	3	—
	<hr/> 17	<hr/> 16

Second Year

English 201-202. Western World Literature	3	3
History 201-202. American History	3	3
Economics 203. Introduction to Economics	3	—
Physical Science 206. Survey of the Physical Sciences	3	—
Geography 301. Principles of Geography	3	—
Psychology 201. General Psychology	—	3
Education 300. Foundations of Education	—	3
Education 451. Survey of Special Education	—	3
Approved Elective	—	3
	<hr/> 15	<hr/> 18

Third Year

Education 301. Human Development and Learning	3	—
Education 420. The Elementary School Curriculum		
or		
Education 436. The Secondary School	3	—

		Credits	
		1st Sem.	2nd Sem.
Education 350. Early Childhood Literature			
or			
Education 351. Children's Literature	3	—	—
Education 310 (04). Supervised Practicum	1-3	1-3	—
Education 456. Characteristics of the Mentally Retarded ...	3	—	—
Education 480. Human Interaction in Teaching	3	—	—
Education 426. Teaching of Reading	—	3	—
Education 461. Teaching the Mentally Retarded	—	3	—
Education 467. Language Arts for the Mentally Retarded ...	—	3	—
Psychology 305. Educational Psychology	—	3	—
Speech 308. Speech for Teachers	—	3	—
		16-18	16-18
<i>Fourth Year</i>		A	B
Education 401. Pupil Evaluation	3	—	—
Education 490. Seminar	3	—	—
Health Education 305. School and Community Hygiene ...	3	—	—
Education 487. Supervised Teaching	—	6	—
Art Education 301. Art for Elementary Teachers	—	—	3
Physical Education 495. Corrective and Adaptive			
Physical Education	—	—	3
Education 488 (04). Supervised Practicum—Advanced	—	—	1-3
Music 485. Music for Elementary Teachers	—	—	3
Approved Elective	—	—	3
		15	13-15

COURSES IN DISTRIBUTIVE EDUCATION

Distributive Education 105-106 Education for Distribution Semester courses; 1 lecture hour and 2 laboratory hours. 2-2 credits. • First semester: Introduction to the teaching of distributive education. Second semester: organization and administration of local chapters of Distributive Education Clubs of America, national youth organization. Both courses include laboratory experiences in local high schools and on campus.

Distributive Education 201-202 Directed Occupational Experience 120 hours work experience in a distributive business. 2-2 credits. • Student's analyze the firm's organization and operation; develop an understanding of the requirements for entering, adjusting, and advancing in a chosen occupational field. Weekly seminar for application of job experiences to the distributive education high school curriculum.

Distributive Education 302 Organization and Administration of Distributive Education Both semesters; 2 lecture and 2 laboratory hours. 3 credits. • Duties and responsibilities, understanding policy and administering a distributive education program. Laboratory hours take place in area high schools and curriculum laboratory.

Distributive Education 405 Methods of Teaching Distributive Education

Both semesters; 2 lecture and 2 laboratory hours. 3 credits. • Techniques of teaching distributive education and unit planning. Scheduled observation experiences and demonstration teaching.

Distributive Education 406, 506 Techniques of Coordination

Both semesters; 2 lecture and 2 laboratory hours. 3 credits. • Developing cooperative relationship with resources in the community; selecting and developing training stations; placement of students and assisting job adjustment. Observation and field work in coordination activities.

Distributive Education 413, 513 Distributive Education Adult Programs

Both semesters; 2 lecture and 2 laboratory hours. 3 credits. • The place of continuing education in the total responsibilities of the teacher-coordinator; planning, organizing, promoting, administering, and evaluating the adult program; selection and training of adult instructors. Observation and experience in adult distributive education classes in an assigned Virginia community.

COURSES IN EDUCATION**Education 300 Foundations of Education**

3 lecture hours. 3 credits. • The historical, sociological, and psychological backgrounds of modern educational theories and practices. The aim of the course is to help the student develop a mature approach to a basic philosophy of education in the modern world.

Education 301 Human Development and Learning

3 lecture hours. 3 credits.
• A study of human growth and development; the nature of learning; and observation of children in school and community situations.

Education 302 Child Growth and Development

3 lecture hours. 3 credits.
• A study of the growth and development of the child which includes the nature of learning and ways of studying individual children.

Education 310 Supervised Practicum

1-3 credits. • Individually planned observations, tutorials, and small group participation in the schools and other group situations involving children. Includes weekly seminar.

Education 350 Early Childhood Literature

3 lecture hours. 3 credits. • A survey of literature appropriate for nursery, kindergarten, and early elementary school grades. Emphasis will be placed on techniques of storytelling and oral reading.

Education 351 Children's Literature I

3 lecture hours. 3 credits. • Designed to give students an appreciation of values of children's literature; includes biography, fable, myth, traditional, and modern fanciful tales and poetry as well as a survey of the history of children's literature.

Education 400 Independent Study

1-6 hours. 1-6 credits. • Opportunities are provided for supervised research and independent study in selected areas. Designed for advanced students. All work offered on an individual basis with the approval of instructor concerned and departmental chairman.

Education 401, 501 Pupil Evaluation 3 lecture hours. 3 credits. • Principles and procedures in evaluating pupil growth in skills, attitudes, and understandings; construction and analysis of teacher-made tests; administration of group tests. Interpretation of group and individual tests with emphasis on measurement problems of exceptional children.

Education 402, 502 Guidance 3 lecture hours. 3 credits. • An introductory course for all students in counselor education. Includes a survey of pupil personnel services and places special emphasis on those services associated with the guidance program. The course is designed for both elementary and secondary counselors and is a prerequisite to all other courses offered by the department of counselor education.

Education 403 Guidance for Exceptional Children 3 lecture hours. 3 credits. • Inter-relationships of home, school, and community agencies are explored with emphasis on the special education teacher as a guidance worker in the areas of educational, mental, social, and vocational development.

Education 406 Psychology in the Classroom 3 lecture hours. 3 credits. • An in-service course for classroom teachers. Based on special problems faced by the classroom teacher in testing, reading, speaking, slow learners, emotionally disturbed children, etc.

Education 407 Audio-Visual Education 3 lecture hours. 3 credits. • The study and use of audio-visual equipment and aids and means for using them for more effective presentations to groups.

Education 408 Approach to Mass Media Instruction in Art Education 2 lecture and 2 laboratory hours. 3 credits. • Designed to familiarize prospective teachers with possibilities of utilizing available audio-visual equipment and materials. The emphasis will be on relating audio-visual tools to the study of art. Within the course there is present the opportunity to expand the usage of audio-visual equipment beyond that of merely being a communication tool and now utilizing these devices in terms of creative expression.

Education 409 TV in the Classroom 3 lecture hours. 3 credits. • Emphasis on classroom utilization of educational television with brief historical and philosophical approach to the concept of ETV. Several sessions in the studio at WCVE-TV.

Education 412 Aerospace Education 3 lecture hours. 3 credits. • A study of the effects of aerospace operations upon social, economic, and political affairs. Emphasis will be placed upon orienting the educator to help his pupils develop an understanding of the technological aspects of the aerospace field. Teachers will have an opportunity to develop resource units for use in their elementary or secondary school classrooms. Opportunity for flight experience will be provided for those interested.

Education 413 Advanced Aerospace Education 3 lecture hours. 3 credits. Prerequisite: Education 412. See description for Education 412.

Education 415 Early Childhood Programs 3 lecture hours each semester. 3-3 credits. Prerequisites: Education 300, Education 302. • The historical and philosophical background of early childhood education; its organization, functions, and recent developments in programs and activities.

Education 416 Early Childhood Procedures 3 lecture hours each semester. 3-3 credits. Prerequisites: Education 300, Education 302. • The application of principles and techniques of teaching in all areas of the curriculum for young children.

Education 420 The Elementary School Curriculum 3 lecture hours. 3 credits. Prerequisites: Education 300 and Education 301 or Education 302. • The historical and philosophical background of the modern elementary school; its organization, functions, and recent developments in programs and activities.

Education 421 Methods in the Elementary School 3 lecture hours. 3 credits. Prerequisites: Education 300 and Education 301 or Education 302. • The application of the principles and techniques of teaching in all areas of child development and learning in the elementary school.

Education 422 Teaching Elementary School Mathematics 3 lecture hours. 3 credits. • Methods and techniques used to teach mathematics in grades one through six. Background material, course content, and modern uses of mathematics will be stressed to give the teacher a better understanding of this subject area.

Education 423-424 Modern Mathematics for Elementary Teachers 3 lecture hours each semester. 3 credits each semester. • Designed to give elementary teachers a better understanding of principles and concepts in modern mathematics.

Education 425 Teaching Language Arts in Elementary School 3 lecture hours. 3 credits. • A study of teaching techniques and materials for the developmental teaching of oral communication and written expression.

Education 426 The Teaching of Reading 3 lecture hours. 3 credits. Prerequisites: Education 300 and Education 301 or Education 302. • A study of the major problems of reading instruction with special attention to the individual's development in reading throughout his elementary school experience.

Education 428/English 428 Children's Literature II 3 lecture hours each semester. 3-3 credits. • Designed to give students an appreciation of values in children's literature; includes biography, fable, myth, traditional, and modern fanciful tales and poetry as well as a survey of the history of children's literature.

Education 436 The Secondary School 3 lecture hours. 3 credits. • Intensive study of the secondary school and its role and function in American public education with particular attention to problems, trends, and issues.

Education 437 High School Curriculum 3 lecture hours. 3 credits. • A study of the background and objectives of the modern high school; and examination of basic issues and current trends in curriculum construction and revision.

Education 438 High School Methods 3 lecture hours. 3 credits. • The application of principles and techniques of teaching in the high school. Emphases include understanding the adolescent, the learning process, the motivation of learning, and the evaluation of the teaching-learning process.

Education 439 High School Curriculum and Methods 6 lecture hours. 3-6 credits. • Basic issues and current trends in curriculum are integrated with principles and techniques of teaching.

Education 440 Principles and Techniques of Teaching High School Sciences Second semester; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: Upper division science education major. • A treatment of principles and techniques of teaching high school science. Emphases include philosophy of science teaching, appropriate learning principles, curriculum innovations, and diverse methods as applied to the field of science. The interrelationship of the sciences will also be stressed.

Education 441 Teaching High School English 3 lecture hours. 3 credits. • Development and organization of English instruction with specific attention to methodology, equipment, materials, and resources. Open to prospective teachers of foreign languages.

Education 442 Teaching Social Studies—Secondary Both semesters; 3 lecture hours. 3 credits. • Examines (1) the demands involved in secondary social studies instruction, (2) preparatory approaches to using academic and professional insights in confronting the demands, and (3) the formulation and implementation of appropriate methodological approaches.

Education 444/544 The Middle School Curriculum 3 semester hours; 3 credits. Prerequisites: Education 300 and Education 301 or Psychology 301 or 302 or permission of the instructor. • This course will focus upon an inquiry into the curriculum decision making process as it relates to the education of pre and early adolescents in the middle school context.

Education 446 Literature for Adolescents 3 lecture hours. 3 credits. Prerequisites: Open to upper division undergraduate English education majors. • This course is designed to acquaint the prospective secondary school English teacher with the nature, scope, and uses of adolescent literature. The student is exposed to reading materials designed to meet the varied needs and interests of adolescents in the American high school.

Education 447 Supervised Teaching in Art Education—Elementary and Secondary Both semesters; five days per week for seven weeks at both the elementary and secondary levels; 5 credits. Prerequisites: Education 301, Art Education 401, Art Education 402. • Classroom experience is offered so that the student may learn to harmonize theory and practice, develop a professional point of view, acquire teaching skills, and gain an understanding of children and how they learn.

Education 448 Supervised Teaching in Art Education 5 credits. See Education 447 above.

Education 449/549 Developmental Reading in Secondary School Spring semester. 3 lecture hours. 3 credits. • This course is designed for prospective and practicing secondary school teachers. The teaching procedures will detail methodology for dealing with a variety of reading situations and factors affecting students in the secondary school. The course takes as its focus the development of reading skills rather than emphasizing remedial reading.

Education 451, 551 Survey of Special Education 3 lecture hours. 3 credits. • For majors and non-majors. An overview of the field of special education identifying exceptional children, programs, facilities, literature, services, and professional workers. A first course for special education majors.

Education 452, 552 Orientation to Speech Pathology 3 lecture hours. 3 credits. • An introduction to the history, scope, and trends in the field of speech pathology to include terminology systems of classifications and concepts of etiology, diagnosis, and therapy.

Education 456, 556 Characteristics of the Mentally Retarded 3 lecture hours. 3 credits. • Nature and needs of the mentally retarded with emphasis upon the degrees of retardation, causes, and concomitant problems. Psychological bases for a suitable curriculum are also explored.

Education 457, 557 Characteristics of the Emotionally Disturbed 3 lecture hours. 3 credits. • A study of the causes and resultant problems involved in emotional disturbance and the implications for educational management.

Education 460, 560 Teaching the Disadvantaged 3 lecture hours. 3 credits. • Exploration of the nature and needs of disadvantaged children with emphasis on implications for teaching.

Education 461, 561 Teaching the Mentally Retarded 3 lecture hours. 3 credits. Prerequisite: Education 451 or permission of the instructor. • Curriculum development and organization of activities for the mentally retarded at different maturational levels with specific attention to program content, equipment, materials, and resources.

Education 462, 562 Teaching the Emotionally Disturbed 3 lecture hours. 3 credits. Prerequisites: Education 451 and 457. • Curriculum development and organization of activities for the emotionally disturbed, including program content, equipment, materials, and resources.

Education 463, 563 Teaching Slow Learners 3 lecture hours. 3 credits. • Curriculum development and organization of activities for slow learners at different maturational levels with specific attention to program content, materials, resources, and guidance.

Education 464, 564 Teaching the Gifted 3 lecture hours. 3 credits. • Curriculum development and organization of activities for the gifted at different maturational levels with specific attention to program content, materials, resources, and guidance.

Education 466, 566 Remedial Reading 3 lecture hours. 3 credits. • Designed for teachers and others who assist in improving reading efficiency, diagnosis of reading difficulties of all age groups, administration and interpretation of individual reading diagnostic tests, organization of reading instruction for individuals or small groups based upon careful diagnosis; specialized remedial methods presented for severely retarded or non-readers.

Education 467, 567 Language Arts for the Mentally Retarded 3 lecture hours. 3 credits. • A study of the communication problems of the mentally retarded at different maturational levels and techniques for developing appropriate curricular emphasis in the total program.

Education 468, 568 Psycho-Educational Diagnosis of Children 3 lecture hours. 3 credits. • A review of tests used in determining nature and extent of learning deficits and their translation into education methodology for children with specific learning problems. Techniques of remediating learning disorders will be examined and evaluated.

Education 471, 571 Medical Aspects of Crippling Conditions 3 lecture hours. 3 credits. • Survey of medical conditions and special health problems as they relate to educational planning and programming. Etiology, prognosis, and effects of disabling conditions are discussed by medical specialists. Teacher-physician relationships are explored. Planning for both the child and his environment to meet his special needs is included.

Education 480, 580 Human Interaction in Teaching 3 lecture hours. 3 credits. • Case-oriented study of affective behavior and its influence on the classroom climate and learning. The content will emerge as the cases are presented and discussed by the participants.

Education 485 Supervised Teaching—Elementary Education Five days per week for eight weeks. 6 credits. Prerequisites: Education 301 and 305 or parallel courses. • Classroom experience is offered so that the student may learn to harmonize theory and practice, develop a professional point of view, acquire teaching skills, and gain an understanding of children and how they learn. Students will participate in a wide range of school activities.

Education 486 Supervised Teaching—Secondary Education Five days per week for eight weeks. 6 credits. Prerequisites: Speech 308, Education 403 and completion of 15 semester credits or more in an academic subject. • Classroom teaching experience is provided so that students may learn to harmonize theory and practice, develop a professional point of view, acquire teaching skills and an understanding of adolescents and how they learn. Students will participate in a wide range of school activities.

Education 487 Supervised Teaching—Special Education 5 days per week for eight weeks; 6 credits. • Classroom experience is offered so that the student may learn to harmonize theory and practice, develop a professional point of view, acquire teaching skills, and gain an understanding of children and how they learn. Students will participate in a wide range of school activities.

Education 488 Supervised Practicum—Advanced 1-3 credits. • Intensive clinical experiences in teaching designed to meet individual student's needs. Includes weekly seminar.

Education 490 Seminar 3 credits. • An elective course for senior education students and other students on approval of the instructor. Discussion of current issues in education.

COURSES IN LIBRARY SCIENCE

CLARE G. HOUGHTON, Adviser

Although VCU does not offer a degree in library science, selected courses are offered in both day and evening programs leading to state certification for libraries in the public schools. A minimum of 18 hours of credits within the certificate program are required for such certification. A semester's course (3 hours) in children's literature is required within the 18 hours. For further information write or call the Dean of the School of Education or the library science adviser.

Library Science 301 Reference and Bibliography Semester course; 3 lecture hours. 3 credits. • A study and evaluation of basic reference books and other bibliographical material most frequently used to answer reference questions in a library.

Library Science 302 Library Organization and Administration Semester course; 3 lecture hours. 3 credits. • A study of fundamental methods, routines, and procedures in the acquisition, preparation, and circulation of books for a small library, with special emphasis on the school library.

Library Science 353 Adolescent Literature Semester course; 3 lecture hours. 3 credits. • Designed to provide students with a sense of values in adolescent literature on the basis of the cultural and literary values contained in such literature. Special reference is made to a wide range of appropriate literature for adolescent children.

Library Science 401 Cataloguing and Classification Semester course; 3 lecture hours. 3 credits. • A basic course in cataloguing the more common types of library materials. Practice in using the Dewey Decimal Classifications, subject headings, simple filing rules, and the use and adaptation of printed cards and cataloguing aids.

Library Science 402 Non-Book Materials Semester course; 3 lecture hours. 3 credits. • Classification, selection, preparation, and use of pamphlets, pictures, charts, maps, bulletin boards, films, filmstrips, and other non-book materials. Emphasis placed on coordination of such materials into the library program.

Library Science 430 Services in Special Libraries Semester course; 3 lecture hours. 3 credits. • An examination of problems, services, and methods involved in organizing and administering special libraries in industry, research laboratories, and educational institutions. Special attention will be given to automation, inter-library cooperation, and information retrieval. Designed for persons already engaged in work in special libraries.

Library Science 454 Practice Librarianship Semester course; 3 credits. Prerequisite: 18 credits of library science or related subjects. • The student is expected to spend 100 or more clock hours in working under supervision in an approved library.

COURSES IN PHYSICAL EDUCATION

These courses are for majors. Courses for non-majors are listed on pages 240-243.

Physical Education 190 Introduction to Physical Education First semester; 2 lecture hours. 2 credits. • Overview of the professional aspects of physical education in our society, philosophical and scientific principles of physical education, professional organizations and literature, and career possibilities and qualifications.

Physical Education 237 Teaching Gymnastics to Girls Second semester; 3 lecture hours. 3 credits. • Uneven parallel bars, balance beam, free exercise, tumbling, and vaulting. Open only to employed teachers.

Physical Education 372 Theory and Techniques of Coaching Baseball and Basketball First semester; 2 lecture hours. 2 credits. Prerequisites: Physical Education 140, 141. • Theory and practice of coaching baseball and basketball, particularly at the high school level.

Physical Education 373 Theory and Techniques of Coaching Football and Wrestling First semester; 2 lecture hours. 2 credits. Prerequisites: Physical Education 140, 233. • Theory and practice of coaching football and wrestling, particularly at the high school level.

Physical Education 374 Theory and Techniques of Coaching Tennis, Gymnastics, Swimming, and Golf First semester; 2 lecture hours. 2 credits. Prerequisites: Physical Education 151 or 250, 231, 232, 234. • Theory and practice of coaching tennis, gymnastics, swimming, and golf, particularly at the high school level.

Physical Education 375 Theory and Techniques of Coaching Soccer, Track, and Field First semester; 2 lecture hours. 2 credits. Prerequisites: Physical Education 140, 141. • Theory and practice of coaching soccer and track and field, particularly at the high school level.

Physical Education 390 Teaching Physical Education in the Elementary Schools Semester course; 2 lecture and 2 laboratory hours. 3 credits. • Methods and curriculum planning in physical education for the elementary school classroom teacher and physical education specialist. Included are analysis of movement, games, and activities suitable for the elementary school child.

Physical Education 392 Kinesiology First semester; 3 lecture hours. 3 credits. Prerequisite: Biology 206 or permission of instructor. • A study of the anatomical, physiological, and physical aspects of human motion with application to the analysis of physical activities.

Physical Education 397 Methods in Health and Physical Education First semester; 2 lecture and 2 laboratory hours. 3 credits. • Methods, materials, techniques, and skills in teaching secondary physical education.

Physical Education 398 Curriculum in Physical Education Second semester; 3 lecture hours. 3 credits. • Curriculum planning for secondary school physical education programs.

Physical Education 407 Secondary School Physical Education Activities Semester course; 3 lecture hours. 3 credits. • A presentation of a progressive gymnastic program of tumbling, stunts, gym horse, parallel bars, horizontal bar, and trampoline. Emphasis will be placed on methods and techniques of teaching apparatus and tumbling in secondary schools. Participation on equipment will be desirable but voluntary.

Physical Education 411 Problems of Coaching (Basketball) First semester; 3 lecture hours. 3 credits. • An intensive study of problems involved in coaching major sports in the secondary school. Emphasis will be placed on practical aspects of organization, administration, and techniques required for successful coaching. This course is designed to meet the needs of personnel already involved in coaching.

Physical Education 412 Problems of Coaching (Football) Second semester; 3 lecture hours. 3 credits. • An intensive study of problems involved in coaching major sports in the secondary school. Emphasis will be placed on practical aspects of organization, administration, and techniques required for successful coaching. Designed to meet the needs of personnel already involved in coaching.

Physical Education 439 The Organization, Administration, and Supervision of the Intramural Sports Program 2 lecture and 2 laboratory hours. 3 credits. • Experiences in the organization and administration of an intramural sports program. Lecture will be devoted to the theory, philosophy, history, and plans for the conduct of an intramural sports program. Laboratory experience will be obtained by working in intramural programs.

Physical Education 477 Psychology of Coaching Semester course; 3 lecture hours. 3 credits. Prerequisite: Completion of two coaching theory courses or permission of instructor. • Psychological basis of athletic coaching with emphasis upon the factors affecting the teaching and learning of athletic skills. Review and analysis of appropriate research findings in the area of motor learning. Study of the problems of coaching at the secondary and college level.

Physical Education 492 Physiology of Exercise Second semester; 3 lecture hours and 1 laboratory hour. 3 credits. Prerequisite: Biology 206. • Physiological changes in the human organism resulting from exercise. Investigation of recent research in diet, drugs, fatigue, cardiovascular/respiratory fitness, conditioning programs for various age groups, and the effects of exercise upon various components of physical fitness and health. Application of specific problems to physical education programs. Laboratory experience in the use of research instruments in exercise physiology and completion of four group and two individual studies required.

Physical Education 493 Tests and Measurement in Health and Physical Education First semester; 3 lecture hours. 3 credits. Prerequisites: Mathematics 104 or 106, Psychology 305. • Selecting, administering, scoring, and evaluating tests in the areas of general motor ability, physical fitness, anthropometrics, motor educability, specialized skills, and knowledge tests. Scientific test construction and basic statistical analysis. Application of competencies demonstrated by completion of project requiring the administration and evaluation of one or more tests, review of the literature, analysis of data, and presentation of conclusions and recommendations.

Physical Education 495 Adaptive and Corrective Physical Education Second semester; 3 lecture hours. 3 credits. Prerequisite: Physical Education 492. • A course designed to provide physical educators with methods of teaching and program planning for students with either temporary or permanent physical disabilities with emphasis on kinds and degrees of anatomical and physiological limitations.

Physical Education 499 Organization and Administration of Physical Education First semester. 3 lecture hours. 3 credits. • Equipment and facilities, routine procedures, budgets and finance, legal liability, public relations, scheduling, and organizing the physical education class program and extra-curricular activities.

COURSES IN HEALTH EDUCATION

Health Education 380 First Aid and Accident Prevention Second semester; 2 lecture hours. 2 credits. • Standard and advanced Red Cross first aid course designed for students in teacher preparation program other than physical education.

Health Education 382 Driver Education First semester; 3 lecture hours. 3 credits. Prerequisite: Driving license. • Classroom instruction combined with road training and teaching of driving to beginners. The essential facts, rules, regulations, skills, and attitudes for good driving.

Health Education 385 School Health Semester course; 3 lecture hours. 3 credits. • The role of the classroom teacher in the school health program.

Health Education 386 Community Health Second semester on alternate year basis. 3 lecture hours. 3 credits. • The function of health organizations as they relate to each other and to the community.

Health Education 480 Safety Education and First Aid Semester course; 3 lecture hours. 3 credits. • Designed to show the hazards of, to develop wholesome attitudes toward, and to impart knowledge concerning the safety aspects of all areas of activity in the home, school, and community. Standard and advanced Red Cross first aid requirements are also incorporated into this course.

Health Education 487 Health Problems Semester course; 3 lecture hours. 3 credits. • A study of health problems, with emphasis on preventive measures.

CURRICULUM IN ENGINEERING

C. A. B. FOSTER, Coordinator

John E. Griffin, Jr. / Juan F. Linares

An engineering education requires that the student establish a strong foundation in mathematics and science before entering into the concentrated study of the specialized courses which prepare him to be an engineer in one of a dozen major fields of engineering, such as: aerospace, civil, electrical . . .

The program outlined here is designed to provide this foundation. The student, however, should be considering his engineering goals beyond this foundation. In addition to the long range career considerations, early decisions need to be made in selecting a specific branch of engineering and in choosing the senior engineering school from which he wishes to receive his degree. The student should seek assistance from the Counseling Center and from his adviser.

Admission Requirements

Graduation from high school with a minimum of 16 units, including four units in English, four in mathematics, one in a laboratory science, and one in history, is required for full admission. The four units in mathematics should include two units of algebra, one in geometry, and one-half in trigonometry. The remaining one-half unit may be in advanced algebra, solid geometry, or higher mathematics.

Applicants are required to take the Scholastic Aptitude Test (morning program) given by the College Entrance Examination Board (CEEB) and achievement tests in English and mathematics in the afternoon program of the CEEB. It is recommended that the aptitude tests be taken in December. The achievement tests may be taken in December, January, or March.

The Curriculum

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Chemistry 101-102. General Chemistry	4	4
Engineering 103. Introduction to Engineering	3	—
Engineering 107-108. Engineering Graphics	2	3
English 101-102. Composition and Literature	3	3
Mathematics 200-201. Calculus and Analytic Geometry	4	4
Physics 207. University Physics	—	4
Approved Elective	3	—
	19	18
<i>Second Year (1971-72)*</i>		
Engineering 201. Statics	3	—
Engineering 202. Dynamics	—	3
Engineering 204. Mechanics of Deformable Solids	—	3
Engineering 205. Computer Methods**	3	—
Engineering 207. Engineering Economy	2	—
Engineering 210. Principles of Electrical Engineering	—	5
English 20x. Literature	3	—
Mathematics 202. Calculus and Analytic Geometry	4	—
Mathematics 301. Differential Equations	—	3
Physics 207-208. University Physics	4	4
	19	18

COURSES IN ENGINEERING

Engineering 103 Introduction to Engineering First semester; 2 lecture and 3 laboratory hours. 3 credits. • An introduction to the nature of engineering; the place of the engineer in our society; the fields of engineering; fundamentals of engineering problems; graphical methods and mathematics; the use of the slide rule; introduction to computers and computer programming.

Engineering 107-108 Engineering Graphics Continuous course; first semester: 1 lecture hour and 4 laboratory hours. 2 credits. Second semester: 2 lecture and 3 laboratory hours. 3 credits. • Introduction to graphical

* This second year is for students who completed their first year in the 1970-71 session. The second year in 1972-73 will reflect changes incorporated in the first year printed above.

** Students in some engineering majors will take an elective in place of this course.

representation; theories of orthographic projection of points, lines, planes, and solids; descriptive geometry as applied to space relationships in graphical problems; pictorial drawing (axonometric, oblique, and perspective); application of drawing and standard specifications; engineering illustration; generation and development of curved and warped surfaces.

Engineering 201 Statics First semester; 3 lecture hours. 3 credits. Co-requisite: Mathematics 202. • Engineering mechanics concerning the vector treatment of concepts of force, mass, space, time; introduction to index notation; gravitational systems of measurements; equilibrium of force systems; centroids; moments of inertia; dry friction; trusses and frames; internal equilibrium of members and assemblies.

Engineering 202 Dynamics Second semester; 3 lecture hours. 3 credits. Prerequisites: Engineering 201, Mathematics 202. • A continuation of Engineering 201 covering planar and three-dimensional kinematics and kinetics of particles and rigid bodies, including relative motion; Newton's Laws; work and energy; impulse and momentum; vibration.

Engineering 204 Mechanics of Deformable Solids Second semester; 3 lecture hours. 3 credits. Prerequisite: Engineering 201. • Introductory mechanics of continuous media; concepts of stress, fatigue, material properties; stress and deformation caused by axial load, shear, torsion, bending and combined loading; boundary value problems; singularity functions; principal biaxial stress; failure theories; instability; buckling; Euler's column theory; tangent modulus concept.

Engineering 205 Computer Methods First semester; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: Engineering 106. Corequisite: Mathematics 200. • Introduction to the theory of digital and analog computers. FORTRAN programming of engineering and mathematical problems. Programs written by students will be processed by a modern computer.

Engineering 207 Engineering Economy First semester; 2 lecture hours. 2 credits. • The economic decision process in the engineering design environment. Investment, financing, depreciation, manufacturing costs, economic selection, replacement.

Engineering 210 Principles of Electrical Engineering Second semester; 5 lecture hours. 5 credits. Corequisites: Mathematics 301, Physics 208. • Electrical units, circuit elements, instruments, laws. Fundamentals of electrical engineering with emphasis on circuit analysis; transients; phasors; introduction to electronics, transformers, machinery.



SCHOOL OF ENGINEERING TECHNOLOGY

JOHN V. ANKENY, Director

**Charles W. Bilmond / Lewis H. Blakely / Earl W. Cameron
James E. Corbett, Jr. / William E. Cox / Fairfax G. Davis
Leonard G. Hoadley / Clinton E. Jones / John Kaufman
F. Louis Legnaioli / Charles G. McKinney / Sanford O. Smith**

Part time—Margaret S. Drake

For every graduate of a four-year curriculum in engineering, architecture, or construction, industry today needs from one to seven trained technicians who have completed an associate degree, or a two-year post-high school program in an occupationally-oriented curriculum.

The purpose of these two-year associate degree programs is to prepare students to hold positions as architectural, electrical, engineering, machine, and construction draftsmen, or as assistants to engineers, architects, estimators and contractors, or in the construction and industrial fields in general. Instruction will be offered in five areas: air conditioning and refrigeration, civil and highway, drafting and design, electrical-electronics technology, and electrical-electronics drafting technology.

Admissions Requirements

The requirements for entrance to the School of Engineering Technology include graduation from an accredited high school with at least 16 acceptable units. Students not able to present certificates of high school graduation, may be accepted providing they satisfactorily pass the high school completion equivalency examination administered by the Virginia State Board of Education.

Students entering the program must have a minimum of two units of algebra or one unit each of algebra and geometry.

Students having completed these requirements in their freshman, sophomore, or junior year of high school, should complete a course in senior mathematics just prior to graduation. Completion of two years of algebra and one year of geometry should be encouraged. Other courses such as mechanical drawing, chemistry, trigonometry, and physics would be helpful. Mathematics 005 (Introduction to Technical Mathematics) will be offered during the Summer Session as a part of the day and/or evening college program for students desiring to meet high school deficiencies. Students ranking in the middle third or third quartile of their graduating class should avail themselves of this opportunity to prepare for college level work.

General Expenses

Textbooks, slide rule, drafting equipment, etc., will cost an estimated \$125 the first year and \$75-\$100 the second year.

Supervised on-the-job training is limited to the extent of available employment in the selected occupation. Students presently employed in the Richmond area may find it possible to continue their work as part of the co-operative program.

Curriculum in Mechanical Engineering Technology

(Air Conditioning and Refrigeration)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
ACT 103. Basic Refrigeration	4	—
ACT 110. Basic Air Conditioning	—	4
ACT 112. Heating, Ventilating, and Piping	—	4
DDT 109. Engineering Drawing	3	—
DDT 167. Construction Plans and Specification	3	—
EET 107. Applied Electricity	4	—
English 107. English Communications	—	3
Mathematics 109. Algebra, Geometry, and Trigonometry I ..	3	—
Mathematics 110. Algebra, Geometry, and Trigonometry II ..	—	3
Physics 209. Applied Physics	—	4
	17	18
<i>Second Year</i>		
ACT 201E. Air Distribution and Design	3	—
ACT 203. Hydronic Systems and Plumbing Design	3	—
ACT 205. Air Conditioning and Refrigeration Analysis	3	—
ACT 210. Air Conditioning and Refrigeration Controls	—	4
ACT 212. Commercial Air Conditioning Design	—	3

	Credits	
	1st Sem.	2nd Sem.
ACT 214. Commercial Refrigeration Design	—	3
ACT 216. System Balancing and Testing	—	2
ACT 301. Industrial Air Conditioning and Ventilating Systems	2	—
ACT 302. High Velocity Duct Systems	—	3
ACT 303. Industrial and Low Temperature Refrigeration Applications	2	—
ET 201-202. Supervised On-the-Job Training or Approved Elective	3	3
ET 204. Industrial Orientation	—	1
Mathematics 207. Vectors and Introduction to Calculus	3	—
	19	19

Curriculum in Civil and Highway Engineering Technology

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
CHT 103. Civil Engineering Drawing	6	—
CHT 232. Highway Design and Construction	—	3
CHT 259-260. Soil Mechanics	3	3
DDT 167. Construction Plans and Specifications	—	3
DDT 117-118. Materials and Methods of Construction	3	3
English 107. English Communications	3	—
Mathematics 109. Algebra, Geometry, and Trigonometry I ..	3	—
Mathematics 110. Algebra, Geometry, and Trigonometry II ..	—	3
Physics 209. Applied Physics	—	4
	18	19

Second Year

CHT 233. Highway Design and Construction	3	—
CHT 257. Surveying	3	—
CHT 352. Hydraulics	—	3
DDT 241-242. Structures	3	3
DDT 350. Properties of Engineering Materials	—	3
ET 204. Industrial Orientation	—	1
Mathematics 207. Vectors and Introduction to Calculus	3	—
Physics 210. Applied Physics	4	—
Approved Elective: Construction Contracting, Construction Esti- mating, Supervised On-the-Job Training, Urban Planning, or Geology for Technicians	3	9
	19	19

Curriculum in Drafting and Design Technology

(Architectural, Building Construction and
Machine Drafting and Estimating)

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
DDT 101. Machine Blueprint Reading	2	—
DDT 167. Construction Plans and Specifications	—	3
DDT 111. Engineering Drawing	6	—
DDT 116. Architectural Drawing	—	6
DDT 117-118. Materials and Methods of Construction	3	3
English 107. English Communications	3	—
Mathematics 109. Algebra, Geometry, and Trigonometry I ..	3	—
Mathematics 110. Algebra, Geometry, and Trigonometry II ..	—	3
Physics 210. Applied Physics	—	4
	17	19

Second Year

DDT 241-242. Structures		
or		
DDT 291-292. Statics and Dynamics	3	3
DDT 243-244. Mechanical and Electrical Equipment of Buildings	3	3
DDT 252. Construction Contracting	—	3
DDT 321. Architectural Drawing		
or		
DDT 331E. Machine Design Drawing	3	3
DDT 350. Properties of Engineering Materials	—	3
ET 204. Industrial Orientation	—	1
Mathematics 207. Vectors and Introduction to Calculus	3	—
Physics 210. Applied Physics	4	—
*Electives	3	3
	19	19

*Electives:

Fall Semester		Spring Semester	
CHT 257. Surveying	3	CHT 260. Soil Mechanics	3
CHT 259E. Soil Mechanics	3	CHT 352E. Hydraulics	3
DDT 283E. Construction Estimating	3	DDT 256E. Urban Planning	3
DDT 295E. Theory of Architecture	3	DDT 283E. Construction Estimating	3

Curriculum in Electrical-Electronics Engineering Technology

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
EET 123-124. Basic Electricity	6	4
EET 125-126. Basic Electronics	3	6
English 107. English Communications	3	—
Mathematics 121-122. Applied Algebra and Trigonometry ..	3	3
Physics 127-128. Applied Physics	4	4
	19	17

Second Year

EET 228E. Power Transmission and Distribution	—	3
EET 229-230. Electric Circuits and Machines	4	4
EET 232. Layout, Drawing and Design	—	1
EET 233. Electrical-Electronic Instruments	3	—
EET 301-302. Industrial Electronics and Controls	4	4
EET 303E-304E. Radio Electronic Transmission or		
EET 305-306. Computer Circuitry	3	3
EET 308E. Microwave Fundamentals	—	3
ET 204. Industrial Orientation	—	1
Mathematics 221. Applied Calculus	3	—
	17	19

Curriculum in Electrical-Electronics Drafting Technology

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
EET 123-124. Basic Electricity	6	4
EET 125-126. Basic Electronics	3	6
Mathematics 121-122. Applied Algebra and Trigonometry ..	3	3
Physics 127-128. Applied Physics	4	4
English 107. English Communications	3	—
	19	17

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
DDT 167. Construction Plans and Specifications	—	3
DDT 111. Engineering Drawing	6	—
DDT 116. Architectural Drawing	—	6
EET 129E. Electrical-Electronics Drafting	3	—
Mathematics 207. Vectors and Introduction to Calculus	3	—
DDT 117-118. Materials and Methods of Construction	3	3
ET 204. Industrial Orientation	—	1
*Approved Electives	3	6
	18	19

*Electives:

Fall Semester		Spring Semester	
ACT 103. Basic Refrigeration	4	ACT 110. Basic Air Conditioning	4
DDT 241. Structures	3	DDT 242. Structures	3
DDT 243E. Mechanical and Electrical Equipment	3	DDT 244E. Mechanical and Electrical Equipment	3
DDT 252. Construction Contracting	3	DDT 283. Estimating	3
DDT 251E. Statics	3	DDT 252E. Dynamics	3
ET 201. Supervised OJT	3	ET 202E. Supervised OJT	3

COURSES IN ENGINEERING TECHNOLOGY

ACT 103 Basic Refrigeration First semester; 3 lecture and 3 laboratory hours. 4 credits. • A lecture and laboratory course in the fundamentals of vapor compression and absorption refrigeration systems. Included are characteristics of refrigerants, compressors, heat exchangers, automatic flow controls, pressure and temperature controls, and motor controls.

ACT 110 Basic Air Conditioning Second semester; 3 lecture and 3 laboratory hours. 4 credits. • A basic lecture and laboratory course in heat load calculations, psychometrics, and systems for control of temperature, humidity, air distribution, and air purification. The student is shown and also operates equipment for various types of basic year-round air conditioning systems.

ACT 112 Heating, Ventilating, and Piping Second semester; 3 lecture and 3 laboratory hours. 4 credits. • A study of various types of heating and ventilating equipment, and their application to comfort residential and commercial uses; the operation and piping design of basic hydronic systems.

ACT 201E Air Distribution and Design First semester; 2 lecture and 3 laboratory hours. 3 credits. • An applied course in selection and layout of equipment, duct design, and principles of air distribution. Consideration is given to building and architectural features, and to cost estimating.

ACT 203 Hydronic Systems and Plumbing Design First semester; 2 lecture and 3 laboratory hours. 3 credits. • A study of steam system classification and design; acquainting the student with basic piping circuits, load characteristics, terminal heating and cooling units, medium and high temperature water heating systems; a study of regional and national codes to be observed, along with specifications and acceptable design of various systems.

ACT 205 Air Conditioning and Refrigeration Analysis First semester; 2 lecture and 2 laboratory hours. 3 credits. • Advance study and application of more complex refrigeration systems, including multistage and cascade; selection and balancing of components for built-up systems in commercial refrigeration and air conditioning.

ACT 210E Air Conditioning and Refrigeration Controls Second semester; 3 lecture and 3 laboratory hours. 4 credits. • A course involving the basic fundamentals of control systems, including the individual components and also complete systems of electric, electronic, and pneumatic controls for air conditioning and refrigeration applications.

ACT 212 Commercial Air Conditioning Design Second semester; 2 lecture and 3 laboratory hours. 3 credits. • An advanced course involving the calculations, equipment selection, and duct design required for complete plans and specifications of central station systems, representing a full coverage of contemporary practice.

ACT 214 Commercial Refrigeration Design Second semester; 2 lecture and 3 laboratory hours. 3 credits. • An advanced course in the layout and design of refrigeration enclosures, piping, load calculations, equipment selection, and cost estimating of complete commercial refrigeration systems. Also included are factors concerning the operation, performance characteristics, and problems of conventional and low temperature refrigeration systems.

ACT 216 System Balancing and Testing Second semester; 1 lecture hour and 2 laboratory hours. 2 credits. • A study of various types of systems, and the instruments required for testing; a step-by-step procedure for checking actual conditions of air velocity, air capacity, temperature, and air pressures in duct branches, risers, and main duct of central systems.

ACT 301 Industrial Air Conditioning and Ventilating Systems First semester; 1 lecture hour and 2 laboratory hours. 2 credits. • The design, application, and central station equipment selection for stores, public buildings, educational facilities, hospitals, process plants, and general control of the industrial environment.

ACT 302E High Velocity Duct Systems Second semester; 2 lecture and 2 laboratory hours. 3 credits. • A study of single and dual-duct systems, mixing boxes or chambers, duct sizing, noise factors, attenuators, terminal reheat, and zone control.

ACT 303 Industrial and Low Temperature Refrigeration Applications First semester; 1 lecture hour and 2 laboratory hours. 2 credits. • A study of

the use of refrigeration in metallurgy; primary, secondary, and expandable refrigerants; medical and clinical applications; physical properties and uses of cyrogenic fluids; vacuum systems; and ice manufacture.

CHT 103 Civil Engineering Drawing First semester; 3 lecture and 9 laboratory hours. 6 credits. • A basic course designed to acquaint the student with necessary detail drawings incidental to civil and highway planning and design, including theory and application of orthographic projection, free-hand lettering and sketching, auxiliary views, isometric and oblique drawings, and dimensioning of working drawings. Other subject areas of study are: applications of route locations, highway surveys and plans, including a study of compound, reverse, simple, parabolic, spiral curves, and earthwork.

CHT 232E-233E Highway Design and Construction Continuous course; 3 lectures per week. 3-3 credits. Prerequisite: Two years of high school drawing and two years of high school mathematics (one year of algebra and trigonometry or two of algebra). • Designed for undergraduate students and practicing highway design and construction personnel. Included are: basic fundamentals of highway geometric design, highway economics and planning, surveys highway capacity, intersection and interchange design, drainage design, flexible and rigid pavement design, construction specifications and methods and maintenance procedures.

CHT 257 Surveying Semester course; 2 lecture and 3 laboratory hours. 3 credits. • A course involving the use of surveying equipment, note-keeping, computations, planimetric topographic work.

CHT 259E-260E Soil Mechanics Continuous course; 3 lecture hours. 3-3 credits. • It is intended for use by undergraduate students and by practicing engineers who may not have had formal training in soils. In this course the origin and natures of soils are discussed, the major physical properties, such as texture, structure, density and water bearing consistency. Soil classifications are discussed as an introduction to the conventional tests such as sieve analysis, liquid limit, plastic limit, compaction and California Bearing Ratio. Soil stabilization and the design of both flexible and rigid pavement are covered. Lectures will be interspersed with laboratory demonstrations and practical work.

CHT 352 Hydraulics Semester course; 3 lecture hours. 3 credits. • This course includes the study of hydrostatics and hydrodynamics from the viewpoint of the civil engineer. The development and use of formulas involving pressures, grade, channel size, and flow through orifices and weirs are also covered.

DDT 101 Machine Blueprint Reading (General) First semester; 1 lecture hour and 2 laboratory hours. 2 credits. • A programmed and lecture course for development ability to visualize an object from blueprint form. To assist students to understand various views, reading of machine working drawings and blueprints, as well as supplementary information relative to special views and assembly drawings.

DDT 109 Engineering Drawing First semester; 2 lecture and 4 laboratory hours. 3 credits. • A course including line work, geometric construction with the use of instruments, lettering, orthographic projection, auxiliary views, sections, and conventional practices, isometrics, dimensioning, fasteners, working drawings, development and intersection of surfaces, piping drawings. Primarily for students in air conditioning and refrigeration technology.

DDT 111 Engineering Drawing First semester; 3 lecture and 9 laboratory hours. 6 credits. • A basic course in engineering knowledge and technical skills essential for careers in engineering drafting and design. This course includes theory and application of orthographic projection, freehand lettering and sketching, use of drafting machines, auxiliary views, isometric and oblique preparations, dimensioning of working drawings, and representation of fastenings. Pencil and ink tracings and reproduction methods are also included.

DDT 113-114 Architectural Drawing Continuous course; 2 lecture and 4 laboratory hours. 3-3 credits. • A study of frame and masonry construction and architectural details, plumbing, heating, electrical plans and specifications. An appreciation and understanding of architectural problems and industrial plant construction will also be included.

DDT 116 Architectural Drawing Second semester; 3 lecture and 9 laboratory hours. 6 credits. • A course designed to acquaint the student with necessary detail drawings incidental to architectural planning and designing. Large scale details are drawn, utilizing standard components obtained from the text and architectural references. Emphasis is placed on acquisition and development of accepted drawing techniques, lettering, standards, practices and composition of working drawing.

DDT 117-118 Materials and Methods of Construction Continuous course; 3 lecture hours each semester. 3-3 credits. • A basic study of building components, their manufacture, grading validity of use as a building material, and a survey of the various techniques and processes by which they are assembled into final structure. Building code requirements, zoning laws, mathematical calculations, student reports, and lectures by representatives of the building supply industries are also included.

DDT 167 Construction Plans and Specifications First semester; 3 lecture hours. 3 credits. • The interpretation and visualization of building construction blueprints and job specifications, wiring diagrams, structural, architectural, and mechanical symbols; and methods and materials of contemporary construction practice.

DDT 241-242 Structures Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: algebra, trigonometry, and physics. • A course in theoretical and practical design of timber, steel, and concrete structures involving beams, columns, footings, and structural connections.

DDT 243E-244E Mechanical and Electrical Equipment of Buildings Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: algebra and

trigonometry. • This course incorporates the fundamentals of heating, air conditioning, refrigeration, plumbing and electrical equipment as applied to residential, commercial, and industrial buildings.

DDT 252E Construction Contracting Semester course; 3 lecture hours. 3 credits. • A course involving the management functions of organizing, staffing, directing, and controlling as related to the contracting business.

DDT 256E Urban Planning Semester course; 3 lecture hours. 3 credits. • Designed for all technicians and those in related fields who wish to become more familiar with the principles and processes by which urban communities are planned and designed. Special emphasis is placed on the relationship between the urban citizen and his surrounding environment. Topics included are: objectives of planning, the legal foundation, the planning agency, the comprehensive plan, zoning, subdivision of land, the neighborhood unit, commercial centers, the system of circulation, and urban renewal.

DDT 283E Construction Estimating First semester; 3 lecture hours. 3 credits. • A complete survey course in construction estimating from below ground through the roof. To provide experience in quantity surveys and the development of complete estimates from take-off to bids.

DDT 291E Statics First semester course; 3 lecture hours. 3 credits. • Practical applications of concurrent and non-concurrent, two- and three-dimensional force systems as applied to machine drafting. Included in the course is material related to graphical methods, friction forces, the work term, torsion and the catenary. (For engineering technology students only.)

DDT 292E Dynamics Second semester course; 3 lecture hours. 3 credits. • Applications of rectilinear and curvilinear motion of machine part elements including impulse, momentum, acceleration, and kinematics. NOTE: "Statics" should be prerequisite to "Dynamics." The mechanics portion of physics course as well as trigonometry and algebra should be prerequisite to "Statics." (For engineering technology students only.)

DDT 295E Theory of Architecture Semester course; 3 lecture hours. 3 credits. (Fall semester only.) • Designed for all students interested in exploring established visual criteria for architectural design: its physical and psychological effects upon our lives; and our role as clients, technicians, draftsmen, and other participating personnel who work and live in its midst. Lecture topics include: What is an Architectural Style: Is Contemporary Architecture Another Style? Client Needs or Whims? Is Taste a Matter of Opinion? Color as Food. The Architect as a Professional. Beauty is Function. The Process of Creative Design.

DDT 321-322 Advanced Architectural Drawing Continuous course; 6 laboratory hours. 3-3 credits. Prerequisites: ET 115-116. • A course in advanced architectural drafting and designing. Requirements for this course include a complete set of working drawings for a two-story commercial structure, and the basic principles of engineering structural design including the preparation of perspective and display drawings; and the construction of models.

DDT 331E-332E Machine Design Drawing Continuous course; 2 lecture and 4 laboratory hours. 3-3 credits. Prerequisites: algebra, trigonometry, and engineering drawing or the equivalent. • To prepare engineering draftsmen and junior engineers to communicate effectively with machine design engineers. Content of the course is as follows: reviews of orthographic projections, sectioning, symbols, and detail, working and assembling drawing, machine shop practices and procedures, fasteners, transmission of motion, precision dimensioning, welding procedures and symbols, bills of materials and checking of drawings.

DDT 350 Properties of Engineering Materials Second semester course; 2 lecture and 2 laboratory hours. 3 credits. • A study of the properties used and characteristics of ferrous and non-ferrous metals, timber, stone, clay products, and other engineering materials.

EET 107 Applied Electricity First semester; 3 lecture and 3 laboratory hours. 4 credits. • An introductory course to basic electricity including electron theory, Ohm's Law, DC and AC circuits, measuring instruments, motors and generators, power distribution, illumination, controls, and electronics. Laboratory work emphasizes basic circuitry and measurements, electrical machinery theory and operating characteristics, and electrical control methods. (Primarily for air conditioning and refrigeration students.)

EET 123-124 Basic Electricity Continuous course; 5 lecture and 3 laboratory hours. 6-4 credits. • Provide those fundamental concepts of direct and alternating current necessary for the understanding of power and communications circuits. The first semester is devoted primarily to DC circuits and an introduction to AC. Emphasis is placed on Ohm's Law and Kirchhoff's Laws as applied to solutions of circuit problems. Other topics include magnetic phenomena, meter movements and measuring instruments, and the DC effects of inductance and capacitance. Primary emphasis in the second semester is on AC theory and circuits problems involving series, parallel, and combination circuits. Inductance, capacitance, and resonance phenomena are included. Laboratory work stresses verification of theoretical principle, and the use of a variety of test and measuring instruments.

EET 125-126 Basic Electronics Continuous course; 2 lecture and 3 laboratory hours, first semester; 5 lecture and 3 laboratory hours, second semester. 3-6 credits. Prerequisites: Electricity 123-124 and Mathematics 121-122. • The basic science applied to the operation of various devices which make up electronic circuits. The course also includes specifications, operating characteristics, and application. The laboratory work includes principles of vacuum and gas tubes, and semiconductors; tuned circuits, and basic circuits for power supplies, amplifiers, and oscillators. The proper use of test devices and measuring instruments is an important part of this course.

EET 129E Electrical-Electronics Drafting First semester; 2 lecture and 4 laboratory hours. 3 credits. Staff. Prerequisites: basic electricity, basic electronics, and mathematics through algebra and trigonometry and/or the approval of the instructor. • A basic course in the application of electrical-electronic principles and their relationship to the designing, installation of

electrical-electronic systems including covers, symbols, schematics, layouts, block diagrams, blueprint reading, specifications, and the National Electric Code.

EET 228 Power Transmission and Distribution Second semester; 3 lecture hours. 3 credits. • A study of problems involved in transportation of electrical energy from the generating station to those using the energy. Studies are made of overhead and underground transmission and distribution systems, and substation and line equipment including conductors, insulators, poles and towers, switching, regulating, and protective devices.

EET 229-230 Electric Circuits and Machines Continuous course; 3 lecture and 2 laboratory hours. 4-4 credits. • First semester: An introduction to single phase AC. Includes Kirchhoff's Laws, DC networks, Thevenin's and Norton's theories, graphical solution of electrical problems, magnetic circuits, DC Transients, reactance, vector algebra, and impedance. Second semester: A study of AC circuit characteristics including resistance, capacitance, and inductance circuits; parallel and series parallel circuits, resonance; circuit analysis; network; coupling and induction; and polyphase circuits. AC machines are stressed in laboratory work which includes assembly and operation of AC generators and motors.

EET 232 Layout, Drawing, and Design Second semester; 3 laboratory hours. 1 credit. • This course includes the fundamentals of drawing and specialized drafting work related to electrical circuits design. Individual laboratory projects are selected and assigned.

EET 233E Electrical and Electronic Instruments First semester; 3 lecture hours. 3 credits. Prerequisite: Mathematics 121-122. • Designed to acquaint technicians with the basic test instruments in the electrical and electronics fields. The operating principles, use, calibration, and applications of instruments will be covered. Laboratory experiments will be practical applications of the theory covered in lectures.

EET 301-302 Industrial Electronics and Controls Continuous course; 3 lecture and 3 laboratory hours. 4-4 credits. Prerequisites: EET 124 Basic Electricity, EET 126 Basic Electronics, Mathematics 121, and Physics 128. • A practical course in which electronic components and simple circuits from Electricity 123-124 and Electronics 125-126 are utilized to introduce the student to the methods of industrial electronics and control in which typical circuits are analyzed and the applications of these circuits in industrial situations are studied. The servomechanism, electronic control of high-frequency heaters, resistance welders, DC motors, and photoelectric and electronic timing devices are emphasized. Particle precipitators, relays, gauges, and positioning devices are also discussed. Through the use of circuits and applications taken from industry, the laboratory section of the course familiarizes the student with the operating requirements of complete functional units containing photoelectric control units, DC electric motor controls, and remote measuring, and positioning devices. The student constructs, repairs, and tests units to satisfy typical application problems in industry.

EET 303E-304E Radio-Electronic Transmission Continuous course; 3 lecture hours. 3-3 credits. • This course will encompass four basic areas: electrical networks, transmission lines, radio antennae, and radio transmitters.

EET 305-306 Computer Circuitry Continuous course; 3 lecture hours. 3-3 credits. • An introduction to computers and computer circuitry. Theory components, and circuits of analog and digital computers are developed. Basic logical circuits, logical design, and associated binary arithmetic and boolean algebra are analyzed. Major divisions of the computer are covered from a component and systems viewpoint.

EET 308E Microwave Fundamentals Second semester; 3 lecture hours. 3 credits. • The study of microwave circuits and devices with emphasis on demonstrations and measurement techniques.

English 107 English Communications Both semesters; 5 lecture hours. 3 credits. • This course includes the following areas of study: sentence structure, the use of resource materials, written and oral expression, and improving reading efficiency. For engineering technology students only.

E.T. 201-202 Supervised On-The-Job Training Semester course; 15 laboratory hours each semester. 3 credits. • A program in supervised job experience related to field of technology in which the student is specializing.

E.T. 204 Industrial Orientation Semester course; 1 lecture hour. 1 credit. • A review of human behavior in industry, employer-employee relations, and industrial organization. Guest speakers will present current employment information for graduate technicians.

Mathematics 109 Algebra, Geometry, and Trigonometry I First semester; 5 lecture hours. 3 credits. Prerequisites: two units of high school algebra or one unit of high school algebra and one unit of high school geometry (or equivalent). • A course including review of the elementary algebraic operations, linear equations in one unknown, applications of plane and solid geometry, and elementary trigonometry through the solutions of right triangles. Emphasis throughout is placed on the application of mathematical principles to verbal problems and on the use of the slide rule in problem solution. The course is designed for engineering technology students in mechanical, civil, and drafting fields.

Mathematics 110 Algebra, Geometry, and Trigonometry II Second semester; 5 lecture hours. 3 credits. Prerequisite: Mathematics 109 (or equivalent). • A course involving algebraic topics including functions, systems of linear equations, exponents and radicals, the binomial theorem, logarithms, quadratic equations in one unknown, ratio, proportion, variation, and progressions with geometric and graphical presentation of these topics where

applicable and involving use of trigonometry in the solution of oblique triangles. Emphasis throughout is placed on the application of mathematical principles to verbal problems and on the use of the slide rule in problem solution. The course is designed for engineering technology students in mechanical, civil, and drafting fields.

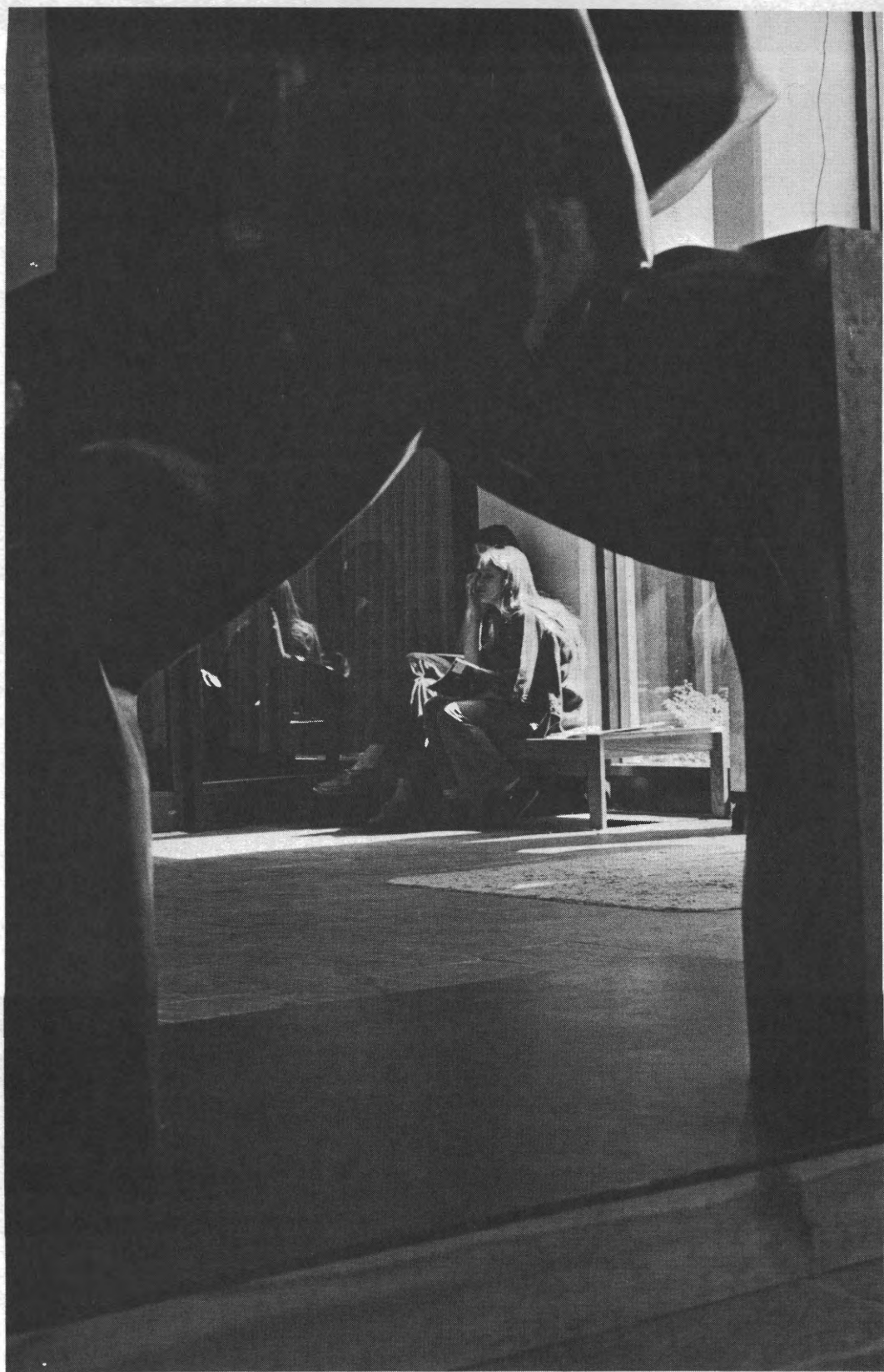
Mathematics 121-122 Applied Algebra and Trigonometry Continuous course; 5 lecture hours. 3-3 credits. • Emphasis is placed on the continuous use of the slide rule in problem solving techniques. Included are algebraic functions, graphs, radicals and exponents, roots, linear equations, simultaneous linear equations, quadratic equations, expansions and progression, determinants, complex numbers, vectors, trigonometric formulas, and equations. The courses are designed for electrical-electronics technology students only.

Mathematics 207 Vectors and Introduction to Calculus First semester; 3 lecture hours. 3 credits. Prerequisites: Mathematics 109 and Mathematics 110 (or equivalent). • A course in vector algebra, complex notation, and introduction to differential and integral calculus. Emphasis throughout is placed on the application of mathematical principles to verbal problems. The course is designed for engineering technology students in mechanical, civil, and drafting fields.

Mathematics 221 Applied Calculus First semester course; 3 lecture hours. 3 credits. • A specialized course involving the application of calculus to electronic and electrical circuits including fundamental concepts; differentiation and integration of algebra, trigonometric, logarithmic, exponential and hyperbolic functions. For electrical-electronics technology students only.

Physics 127-128 Applied Physics Continuous course; 3 lecture and 3 laboratory hours. 4-4 credits. • A survey course introducing the student to physical principles, scientific investigation, and experimentation. Includes studies of heat, mechanics, sound, and light. Emphasis is placed on applications of principles on problem solving and on writing reports based on laboratory experimental work. For electrical-electronics technology students only.

Physics 209-210 Applied Physics Continuous course; 3 lecture and 3 laboratory hours. 4 credits each semester. • First semester: Principles and practical applications of heat, mechanics, sound, and properties of matter. Second semester: Principles and practical application of electricity, light, and modern physics. Scientific investigation, experimentation, and reporting procedures are included.



SCHOOL OF OCCUPATIONAL THERAPY

CORNELIUS A. KOOIMAN, Director

ELEANOR V. WOLFE, Assistant Director

Charles Cohen / Pat Condrey / Dana Graham / Dellvina Gross
Thomas Romeo / Dorothy Saxton / Mary Schroeffer / James Shields, Jr.
Weir Tucker

The School of Occupational Therapy is part of the School of Allied Health Professions, Medical College of Virginia (the Health Sciences Divisions of VCU).

Occupational therapy is the art and science of directing man's response to selected activity to promote and maintain health, to prevent disability, to evaluate behavior, and to treat or train patients with physical or psychosocial dysfunction.

Occupational therapy is used in mental hospitals and clinics; rehabilitation centers; curative workshops; orthopedic, general, and children's hospitals; hospitals and schools for crippled children; hospitals and schools for the blind and deaf; tuberculosis sanatoria; penal institutions; and home service programs. Trained occupational therapists serving in military hospitals are commissioned officers.

The Virginia Commonwealth University program is approved by the American Occupational Therapy Association and is accredited by the Council on Medical Education of the American Medical Association and leads to eligibility for registration in the American Occupational Therapy Association.

Requirements for Admission An applicant for admission to the School of Occupational Therapy must be a graduate of an accredited high school with a "C+" or above average.

It is desirable for students pursuing a program in occupational therapy to have included in their high school work courses in chemistry or physics and biology. Foreign language is also desirable.

All candidates are required to present evidence of good character, general physical fitness, and emotional stability.

The University reserves the right to refuse admission to the courses in occupational therapy or to require the withdrawal of a student or to withhold the degree or certificate if, in the opinion of the authorities, the applicant is not adapted to the academic or clinical program. A battery of tests may be administered after the student is enrolled, and exploratory counseling may be recommended.

A personal interview is required for all college graduates and transfer students. If distance prevents the applicant from coming to Richmond, arrangements may be made to have the interview with a qualified occupational therapist selected by this school near the student's own home.

The School of Occupational Therapy offers three programs:

1. A curriculum leading to the Bachelor of Science in Occupational Therapy degree, which requires the completion of a minimum of 125 credits of course work, plus nine months of clinical affiliation.
2. Certificate program in occupational therapy. Candidates of this program must hold a bachelor's degree from an accredited college or university. Student must have completed 12 semester hours in psychology; 6 semester hours in sociology; 6 semester hours in art. This program is a three-semester course plus eight months of clinical experience.
3. Master's degree program. This program leads to the Master of Science in Occupational Therapy degree. It has the same requirements for admission as those indicated in the preceding paragraph. This program is four semesters in length, including a thesis, plus eight months of clinical experience.

For additional information in the post-baccalaureate programs listed above, write: Coordinator, Graduate Program, School of Occupational Therapy, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220.

Undergraduate Curriculum in Occupational Therapy*	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
Art Education 121-122. Principles of Art	2	2
Biology 101-102. General Biology	4	4
English 101-102. Composition and Literature	3	3
Occupational Therapy 102. Survey of Occupational Therapy	2	—
Occupational Therapy 111. General Crafts	—	2
Psychology 201-202. General Psychology	3	3
Physical Education	1	1
	<hr/> 15	<hr/> 15

*The occupational therapy curriculum is currently undergoing some revisions. Thus, students entering any program under this **Bulletin** must anticipate the possibility of further modifications.

	Credits	
	1st Sem.	2nd Sem.
<i>Second Year</i>		
Crafts 255. Ceramics	2	—
Crafts 220. Woodworking	3	—
Crafts 363. Weaving	—	2
Biology 206. Physiology	—	4
English 201-202. Western World Literature	3	3
Occupational Therapy 201. Clinical Observation	—	2
Occupational Therapy 317. Group Process	2	—
Psychology 304. Development Psychology	—	3
Sociology 201. General Sociology	3	—
Sociology 333. Introductory Anthropology or		
Approved Elective. Sociology	—	3
Physical Education	1	1
Elective	3	—
	17	18
<i>Third Year</i>		
Biology 305. Human Anatomy	4	—
Biology 425. Kinesiology	—	2
Biology 429. Neuroanatomy	—	3
Occupational Therapy 216. Therapeutic Modalities	3	—
Occupational Therapy 301. Preventive Occupational Therapy	—	3
Occupational Therapy 302. Evaluative Measure in Occupational Therapy	—	3
Occupational Therapy 312. Pediatrics	—	2
Occupational Therapy 332. Medical Lectures I	2	—
Psychology 409. Psychology of Personality	3	—
Elective	3	3
	15	16
<i>Fourth Year</i>		
Occupational Therapy 401. Theory in Psychosocial Dysfunction	—	3
Occupational Therapy 402. Theory in Physical Dysfunction	3	—
Occupational Therapy 404. Rehabilitation	—	3
Occupational Therapy 406. Directed Studies in Occupational Therapy	2	—
Occupational Therapy 433. Medical Lectures II	2	—
Occupational Therapy 434. Medical Lectures III	—	2
Occupational Therapy 435. Psychiatry	2	—
Psychology 311. Introduction to Statistics	3	—
Electives	4	8
	16	16

COURSES IN OCCUPATIONAL THERAPY

Occupational Therapy 102 Survey of Occupational Therapy Both semesters; 2 lecture hours. 2 credits. Prerequisite: consent of instructor. • History, development, and function of occupational therapy. The contemporary scene.

Occupational Therapy 111 General Crafts Both semesters; 4 laboratory hours. 2 credits. • Designed to give the student a working knowledge of basic processes in various minor crafts with a view of physical and psychological involvement in activity. Laboratory fee \$2.50.

Occupational Therapy 201 Clinical Observation Both semesters. 1 seminar hour and 4 laboratory hours. 2 credits. • Assignment in selected occupational therapy clinics for observation of patient treatment. Introduction to medical terminology.

Occupational Therapy 216 Therapeutic Modalities First semester; 1 lecture hour and 4 laboratory hours. 3 credits. Prerequisite: Crafts 220. • Orientation to techniques and equipment used to foster independence and adjustment to disability; activities of daily living, orthotics, and adapted equipment.

Occupational Therapy 301 Preventive Occupational Therapy Second semester; 3 lecture hours. 3 credits. Prerequisite: Occupational Therapy 332. • Theory of occupational therapy with general medical conditions, pediatrics, cerebral palsy, geriatrics, etc.

Occupational Therapy 302 Evaluative Measures in Occupational Therapy Second semester; 1 lecture hour and 4 laboratory hours. 3 credits. Prerequisites: Occupational Therapy 216, Biology 305. • Practice in performance and interpretation of standard measures of disability evaluation used in occupational therapy. Field work included.

Occupational Therapy 312 Pediatrics Second semester; 1 lecture hour and 2 laboratory hours. 2 credits. Prerequisite: junior standing; occupational therapy major. • Basic activities and perceptual readiness skills are studied in a developmental framework.

Occupational Therapy 317 Group Process Both semesters; 4 laboratory hours. 2 credits. Prerequisite: sophomore standing occupational therapy major. • Study of group interaction processes and interpersonal relationship dynamics, with special emphasis on the awareness of understanding self in the use of group techniques in occupational therapy.

Occupational Therapy 332 Medical Lectures I First semester; 2 lecture hours. 2 credits. Prerequisites: Biology 206, concurrent with Biology 305. • Study of variety of general medical symptoms, etiology, and treatment.

Occupational Therapy 401 Theory in Psychosocial Dysfunction Both semesters; 3 lecture hours. 3 credits. Prerequisite: Occupational Therapy 317; 9 credits in psychology, psychiatry. • Applications of the principles of occupational therapy to neuropsychiatric conditions.

Occupational Therapy 402 Theory in Physical Dysfunction Both semesters; 3 lecture hours. 3 credits. Prerequisite: senior standing occupational therapy major. • Deals with the application of occupational therapy techniques in the treatment of patients with physical injuries or disabilities. It includes the general aims of occupational therapy in contributing to the total adjustment of the patient with a physical disability and the specific principles of treatment.

Occupational Therapy 404 Rehabilitation Second semester; 3 lecture hours. 3 credits. Prerequisite: senior standing occupational therapy major. • General principles of rehabilitation. A survey of public and private agencies taking part in rehabilitation. The function of agencies is covered as well as methods in which services are rendered. Principles of work evaluation. Includes principles and practice of job analysis, organization, and administration of an occupational therapy department.

Occupational Therapy 406 Directed Studies in Occupational Therapy Both semesters; hours arranged. 2 credits. Prerequisites: senior standing occupational therapy major and consent of instructor. • Independent reading, seminar discussion, research methods, observation, and/or clinical experience.

Occupational Therapy 408 Social Aspects of Rehabilitation Both semesters; 3 lecture hours. 3 credits. • Examination of social and social psychological factors influencing the rehabilitation process and the delivery system of rehabilitation as it effects change. The "social epidemiology" of disability, variations in perceptions and response to handicapping conditions, and the occupational and organizational patterns for disability management are discussed.

Occupational Therapy 411 Advanced Theory in Psychosocial Dysfunctions Second semester; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Occupational Therapy 401. • Advanced theory, application of media and techniques for specific psychosocial dysfunctions.

Occupational Therapy 412 Advanced Theory in Physical Dysfunctions Second semester; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Occupational Therapy 402. • Advanced theory, application of media and equipment for specific physical dysfunctions.

Occupational Therapy 433 Medical Lectures II First semester; 2 lecture hours. 2 credits. Prerequisite: senior standing occupational therapy student. • A study of neurological and orthopedic conditions from the standpoint of etiology, prognosis, clinical signs and symptoms, and treatments.

Occupational Therapy 434 Medical Lectures III Second semester; 2 lecture hours. 2 credits. Prerequisite: Occupational Therapy 433. • Physical medicine and rehabilitation treatment of major diagnostic entities.

Occupational Therapy 435 Psychiatry First semester; 2 lecture hours. 2 credits. Prerequisite: senior standing occupational therapy major. • A study of personality development, ego defenses, and mental disorders. Etiology, prognosis, and treatment of mental disorders, including psychopathology.

Occupational Therapy 465 Clinical Affiliation 6-9 credits. Full time for a minimum of six months following the academic portion of either program. Practical experience under the supervision of registered therapist in approved training centers arranged by the department, including physical dysfunction, psycho-social dysfunction, and general medicine.

Upon satisfactory completion of all affiliations, the student is awarded a certificate in occupational therapy and is eligible, upon recommendation of the school, to write the examination for professional registration conducted by the American Occupational Therapy Association. The student must begin the clinical program within one year after he completes the requirements for the bachelor's degree, and complete the training within two years to be eligible for a certificate.

SCHOOL OF SOCIAL WORK

RICHARD LODGE, Dean

ELAINE ROTHENBERG, Associate Dean

EDWARD M. CARPENTER, Assistant Dean

Alice Barber / Sidney Clearfield / H. Otto Dahlke

Willie Dell / Margaret Foley / Marion Foster / MacDonald Franklin, Jr.

Hilda Gold / Grace Harris / Charles Itzkovitz / Lucie Johnson

Jean B. Jones / Virous Jones / George T. Kalif / Thomas Keenan

Lionel Lane / Anne Montague / Ellen Ostrow / William Pearman

Dojelo Russell / Mary Schreiber / Charlotte Schrieberg

Margaret Schubert / C. Bernard Scotch / Florence Segal / Emanuel Tropp

Ruby Walker / Robert E. Young

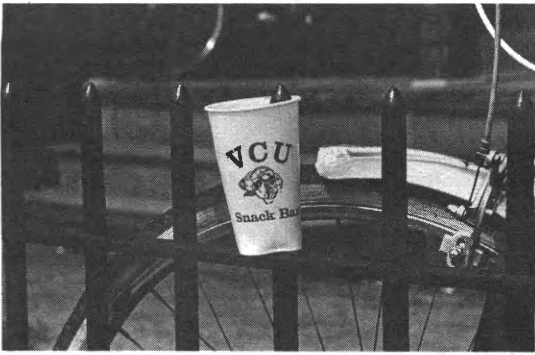
The School of Social Work offers a two-year graduate professional curriculum for social work, leading to the degree of Master of Social Work. The program prepares students for practice in many different kinds of agencies; concentrations are available in administration, community organization-social planning, social casework, and social group work. Students elect one of these before beginning the program; under certain circumstances change in a concentration is possible during the first year.

The overall objectives of the program are to enable students to become social workers with ability: (1) to meet the needs of clients in a way that fosters maximum social functioning and self-actualization; (2) to participate in promoting the kind of society that fosters such self-realization; and (3) to examine critically social work practice and the provision of social service with dedication to the people and purposes that social workers serve.

To enable the student to develop professional competence and skill, the integrated class and field work curriculum offers opportunities to acquire a substantial knowledge based in (1) the methods of social work practice; (2) the patterns of individual, group, and community behavior as they interact with each other and the social milieu; (3) the development, organization, and operation of social welfare programs and policies; and (4) the methods of scientific inquiry in social work.

All students in the School of Social Work have the same basic program, which includes two years of field instruction as part of a progressively more advanced curriculum over the four semester period. The area of the student's concentration determines the nature of his method courses and his field work assignments.

The School of Social Work publishes a separate catalogue, which is available on request to School of Social Work, Virginia Commonwealth University, Academic Center, Richmond, Virginia 23220.



PART VII—BOARD, OFFICERS, AND FACULTY

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S. Buford Scott Vice-Rector
Richard D. Obenshain Secretary

To July 1, 1972

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James L. Seaborn, Jr.

To July 1, 1974

Owen Gwathmey, M.D. James E. Sheffield
Miss Barbara Keyser John H. Temple
C. Coleman McGehee William Thornton, M.D.
Richard D. Obenshain B. Walton Turnbull

To July 1, 1975

Virginius Dabney S. Buford Scott
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James L. Dunn, B.S.	<i>Assistant Director of Development and Director of Alumni Activities</i>

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Robert F. Hester, B.S., M.A.	<i>Assistant Dean, School of the Arts</i>
J. Edwin Whitesell, A.B., M.A., Ph.D.	<i>Dean, School of Arts and Sciences</i>
Lewis C. Goldstein, B.S., M.S., Ph.D.	<i>Assistant Dean, School of Arts and Sciences</i>
John H. Borgard, A.B., M.A.	<i>Assistant Dean, School of Arts and Sciences</i>
J. Curtis Hall, A.B., M.S., Ed.D.	<i>Dean, School of Business</i>
John D. Lambert, B.S., M.S.	<i>Assistant Dean, School of Business</i>
Harland W. Westermann, B.A., M.A., Ph.D.	<i>Dean, School of Community Services</i>
Marion Hormachea, B.S., M.Ed.	<i>Assistant Dean, School of Community Services</i>
Arnold P. Fleshood, B.A., M.S., Ed.D.	<i>Dean, School of Education</i>
Howard L. Sparks, A.B., M.A., Ed.D.	<i>Associate Dean, School of Education</i>
Richard S. Vacca, A.B., M.S., Ed.D.	<i>Assistant Dean, School of Education</i>
Richard Lodge, B.A., M.S.W., D.S.W.	<i>Dean, School of Social Work</i>
Elaine Z. Rothenberg, A.B., M.S.S.	<i>Associate Dean, School of Social Work</i>
Edward M. Carpenter, B.A., M.S.W., D.S.W.	<i>Assistant Dean, School of Social Work</i>
John A. Mapp, A.B., M.A.	<i>Dean of Continuing Education, Director of Evening College and Summer Session</i>
Charles A. B. Foster, B.S., M.S.	<i>Coordinator, Curriculum in Engineering</i>
John V. Ankeney, B.S., M.S.Ed.	<i>Director, School of Engineering Technology</i>
Cornelius A. Kooiman, O.T.R., B.S., M.A.	<i>Director, School of Occupational Therapy</i>

OFFICERS OF INSTRUCTIONAL SERVICES

Harold E. Boling.	<i>University Registrar</i>
John D. Call, B.S., M.S., M.D.	<i>Academic Division Physician</i>

Manfred Call, B.S., M.S., M.D.	<i>Academic Division Physician</i>
Jane Bell Gladding, B.A., M.S.	<i>Associate Dean, Student Life</i>
Richard E. Grove, B.S., M.A., Ph.D.	<i>Director of University Computer Center</i>
Timothy L. Langston, B.S., M.S., Ed.D.	<i>Dean of Student Services</i>
Alfred T. Matthews, B.A., M.A., Ph.D.	<i>Dean of Student Life</i>
Gerard B. McCabe, B.A., A.M.L.S., M.A.	<i>Director of University Libraries</i>
O. J. Paris, B.A., M.Ed.	<i>Director of Admissions</i>
Osborne B. Parker, B.S., M.S., Ed.D.	<i>Director, Counseling Center</i>
F. Dana Payne, B.A.	<i>Coordinator of Academic Advising</i>
Ellen D. Pearson, B.S.	<i>Director, Student Financial Aid</i>

OFFICERS OF ADMINISTRATIVE SERVICES

Martha B. Conway, LL.B.	<i>Administrator of Research Grants and Contracts</i>
Walter P. Lossing, M.B.A.	<i>Comptroller-Treasurer</i>

INSTRUCTIONAL STAFF (1970-1971)

The date after each name indicates year of appointment.

ABDELSAMAD, MOUSTAFA H. (1968) ...	<i>Assistant Professor of Business Administration</i>
B.Com., Cairo University; M.B.A., D.B.A., George Washington University.	
ABERNATHY, FRANK H., Jr.*** (1966)	<i>Instructor of Accounting</i>
A.B., Duke University; C.P.A.	
ADKISON, H. LEON, JR. (1970) ...	<i>Assistant Professor of Information Systems</i>
B.S., M.S., Ph.D., Texas Christian University.	
ALBRECHT, MARY LOUISE (1970)	<i>Assistant Professor of English</i>
B.A., Loyola University; M.A., Ph.D., Catholic University of America.	
ALEXANDER, JAMES H. (1970)	<i>Assistant Professor of Economics</i>
B.A., M.A., Southern Methodist University; Ph.D., University of Houston.	
ALLEN, EDWARD P. (1950)	<i>Associate Professor of Physical Education</i>
B.S., Rhode Island State College; M.Ed., Boston University.	
AMES, DAVID (1971)	<i>Associate Professor of Urban Studies</i>
B.A., M.A., George Washington University; Ph.D., Clark University.	
AMPOLO, O'DEAN (1967)***	<i>Instructor of Physical Education</i>
ANDERSON, RACHEL N. (1965) ..	<i>Instructor of Physical Education</i>
B.S., Madison College.	

*** Part-time.

- ANKENEY, JOHN V. (1957) *Professor of Engineering Technology and
Director of School of Engineering Technology*
B.S., West Virginia Institute of Technology; M.S.Ed., Cornell
University.
- APGAR, NICHOLAS A. (1962) *Associate Professor of Communication Arts
and Design and Acting
Chairman of the Department*
B.F.A., M.F.A., Syracuse University.
- ARMOUR, ROBERT A. (1963) *Assistant Professor of English*
B.A., Randolph-Macon College; M.A., Vanderbilt University;
Ph.D., University of Georgia.
- ARMSTRONG, JOHN J. (1968) *Assistant Professor of Interior Design*
B.A., Catholic University; M.A., Columbia University; Certifi-
cate, New York School of Design.
- ARRINGTON, DALE E. (1969) *Assistant Professor of Chemistry*
B.S., University of Washington; Ph.D., University of Kansas.
- ASPLUND, KENNETH K. (1969) *Assistant Professor of Biology*
B.S., Yale University; M.A., Ph.D., University of California.
- AYRES, RAY M. (1969) *Assistant Professor of Business and
Acting Chairman of the Management Center*
B.S., M.S., Virginia Commonwealth University.
- BACHMANN, JOHN A. (1970) *Assistant Professor of Management*
B.S., M.S., Ph.D., Virginia Polytechnic Institute and State
University.
- BAILEY, JAMES W. (1964) *Professor of Education*
A.B., Cornell College; B.D., Garrett Theological Seminary;
M.Ed., University of Chicago.
- BAILEY, KENT G. (1968) *Assistant Professor of Psychology*
B.A., Emory and Henry College; M.S., Virginia Commonwealth
University; Ph.D., University of West Virginia.
- BAILEY, LARRY P. (1969)** *Assistant Professor of Accounting*
B.S., Concord College; M.B.A., University of Pennsylvania;
CPA.
- BALL, HOWARD GEORGE (1969) *Assistant Professor of Distributive
Education*
B.B.A., M.S., Ph.D., University of Wisconsin.
- BARBER, ALICE L. (1964) *Associate Professor of Social Work*
B.A., Southeastern Louisiana College; M.S.W., Tulane Uni-
versity School of Social Work.
- BASS, ROBERT G. (1962) *Professor of Chemistry*
B.S., Virginia Polytechnic Institute and State University;
Ph.D., University of Virginia.

- BATTY, L. WAYNE (1949).....*Professor of Music*
B.M.Ed., Illinois Wesleyan University; B.M., Kansas City Conservatory; M.M., Chicago Musical College.
- BAYLISS, J. TEMPLE (1967).....*Assistant Professor of Physics*
B.A., Bowdoin College, Ph.D., University of Virginia.
- BEALE, ANDREW V. (1969).....*Assistant Professor of Counselor Education*
A.B., M.S., University of North Carolina; Ed.D., University of Virginia.
- BEALL, LARRY G. (1970).....*Assistant Professor of Economics*
B.A., State University of New York at Binghamton; M.A., University of South Carolina.
- BEATON, WILLIAM R. (1970).....*Professor of Business Administration and Management*
B.S., Stetson University; M.S., Florida State University; Ph.D., Ohio State University.
- BECHTEL, WILLIAM A. (1967).....*Assistant Professor of Law Enforcement*
B.S., M.S., California State College.
- BECK, SUDIE Y. (1964).....*Instructor of English*
B.A., Phillips University; M.A., Oklahoma State University.
- BECK, WILLIAM J. (1969).....*Associate Professor of French and Chairman of the Department of Foreign Languages*
B.S., M.A., Ph.D., Rutgers—The State University; Middlebury Language School; Institut Catholique, Paris, France.
- BEDELL, JEANNE F. (1968).....*Instructor of English*
A.B., Sweet Briar College; M.A., University of Richmond.
- BEITZELL, NEIL D. (1966).....*Instructor of Photography*
B.S., Illinois Institute of Technology; M.F.A., Rhode Island School of Design.
- BERGMAN, LAWRENCE F. (1970).....*Instructor of Dramatic Art and Speech*
B.S., University of Massachusetts; M.A., University of Connecticut.
- BERKOWITZ, HELEN (1963).....*Instructor of English*
A.B., Mount Holyoke College; M.A., University of Richmond.
- BERRY, LEONARD L. (1971).....*Associate Professor of Business and Chairman of the Department of Marketing*
A.B., Fresno City College; M.B.A., University of Denver; D.B.A., Arizona State University.
- BEVILAQUA, WILLIAM OTTO (1955).....*Associate Professor of Communication Arts and Design*
B.F.A., Virginia Commonwealth University; M.F.A., University of North Carolina.

- BHANDARI, NARENDRA C. (1968) *Assistant Professor of Management*
B.Com., M.Com., S.M.K. College (India); M.A., M.B.A., University of Georgia.
- BIDDLE, THELMA S. (1966)** *Instructor of History*
B.S.Ed., Trenton, New Jersey State Teachers College; M.Ed., College of William and Mary.
- BIEHL, ARTHUR O. (1954) *Professor of Communication Arts and Design*
B.F.A., Virginia Commonwealth University.
- BIGELOW, ALDEN G. (1957) *Associate Professor of History and Political Science*
B.S., M.A., Ph.D., University of Virginia.
- BILES, PAUL E. (1971) *Assistant Professor of Rehabilitation Counseling*
B.A., Wake Forest University; M.A., Ph.D., University of South Carolina.
- BILMOND, CHARLES W. (1964) *Instructor of Engineering Technology*
B.S., Virginia Polytechnic Institute and State University.
- BINFORD, JOSEPH A. (1970) *Assistant Professor of Retailing*
B.A., University of Richmond; M.S., Virginia Commonwealth University.
- BIRINDELLI, CHARLOTTE M. (1967)*** *Instructor of Physical Education*
- BIRMINGHAM, JOHN C., JR. (1966) *Assistant Professor of Spanish*
A.B., East Carolina University; M.A., Middlebury College; Ph.D., University of Virginia.
- BLAKE, JOHN A. (1949) *Associate Professor of Psychology*
A.B., Presbyterian College; M.A., Johns Hopkins University.
- BLAKE, WILLIAM E., JR. (1965) *Associate Professor of History*
B.A., University of Cincinnati; M.A., B.D., Cincinnati Bible Seminary; Th.M., Th.D., Union Theological Seminary.
- BLAKELY, LEWIS H. (1967) *Instructor of Engineering Technology*
B.S., West Virginia Institute of Technology.
- BLALACK, RICHARD O. (1970) *Assistant Professor of Management*
B.S., Rider College; M.B.A., Georgia State University.
- BLANKS, EDWIN E. (1965) *Assistant Professor of Information Systems and Director of Computer Center*
B.S., M.S., Virginia Commonwealth University.
- BLANTON, SUSAN P. (1967) *Instructor of English*
B.A., Westhampton College; M.A., University of Virginia.
- BLEICHER, EDWARD P. (1969) *Assistant Professor of Art Education*
B.F.A., M.A., University of Alabama.

** On Educational Leave.

*** Part-time.

- BLEM, CHARLES R. (1969)..... *Assistant Professor of Biology*
B.S., Ohio University; M.S., Ph.D., University of Illinois.
- BONDS, MAURICE (1942)..... *Professor of Art History*
and Chairman of the Department
B.F.A., Virginia Commonwealth University; M.A., Columbia
University; Art Students League of New York (1 year).
- BOONE, JEAN P. (1969)..... *Instructor in Social Welfare*
B.A., Dillard University; M.S.S.W., Boston University of Social
Work.
- BORGARD, JOHN H. (1971)..... *Assistant Dean, School of*
Arts and Sciences
A.B., M.A., Marquette University.
- BOSWELL, SANFORD L. (1969)..... *Instructor of Accounting*
B.S., University of North Carolina; M.B.A., East Carolina
University.
- BOWIE, JONATHAN T. (1963)..... *Assistant Professor of Communication Arts*
and Design
B.F.A., Colorado College; M.F.A., University of Michigan.
- BOWLES, DONALD H. (1961)..... *Associate Professor of Marketing*
A.B., Harvard University; M.S., University of Richmond.
- BOYKIN, JAMES H. (1971)..... *Assistant Professor of Real Estate*
B.S., Virginia Polytechnic Institute and State University;
M.Com., University of Richmond; Ph.D., American University.
- BRADFORD, JAMES A. (1969)..... *Instructor of Painting*
B.S., M.F.A., University of Wisconsin.
- BRANDT, WARREN W. (1969)..... *President of the University and*
Professor of Chemistry
B.S., Michigan State University; Ph.D., University of Illinois.
- BRAXTON, DOLORES B. (1970)..... *Instructor of Education*
and State Regional Training Officer, Head Start Program
B.A., Virginia Union University; M.A., Columbia University.
- BRICELAND, ALAN V. (1966)..... *Assistant Professor of History*
A.B., College of William and Mary; M.A., Ph.D., Duke Uni-
versity.
- BRIGGS, FRANCES M. (1966)..... *Professor of Education,*
Chairman of Department of Secondary Education
A.B., Duke University; M.A., George Peabody College; Ph.D.,
University of North Carolina.
- BROOKE, FRANCIS J. (1968)..... *Professor of German and*
Vice-President for Academic Affairs
B.A., Hampden-Sydney College; M.A., University of Chicago;
Ph.D., University of North Carolina.
- BROPHY, ALFRED L. (1968)..... *Associate Professor of Psychology*
A.B., Harvard University; A.M., Ph.D., Columbia University.

- BROWN, DARREL R. (1970).....*Associate Professor of Management*
B.S., University of Kansas; M.B.A., University of New Mexico;
D.B.A., University of Oregon.
- BROWN, E. ALLAN (1951).....*Professor of English*
A.B., M.A., Ph.D., University of North Carolina.
- BROWN, EMMA L. (1971).....*Assistant Professor of Recreation*
B.S., M.S., University of North Carolina.
- BROWN, I. DOUGLASS (1966)****.....*Professor of Sociology*
A.B., Butler University; M.A., University of Wisconsin; Ed.D.,
Indiana University.
- BROWN, KAY B. (1959).....*Assistant Professor of Distributive Education*
B.S., M.S., Virginia Commonwealth University; Ed.D., Uni-
versity of Virginia.
- BULLARD, CECILIA E. M. (1969).....*Instructor in Art History*
B.A., M.A., George Washington University.
- BUMGARDNER, JAMES A. (1958).....*Assistant Professor of Painting*
B.F.A., Virginia Commonwealth University; Hans Hofmann
School of Art.
- BURGART, HERBERT J. (1966)..*Professor of Art and Dean of the School*
of the Arts
B.A., Long Beach State College (California); M.Ed., D.Ed.,
Pennsylvania State University.
- BURTON, DOROTHY T. (1965).....*Assistant Professor of Education*
B.S., Virginia Commonwealth University; M.Ed., University of
Virginia.
- BUSCH, J. RODNEY (1967).....*Assistant Professor of Dramatic Art*
and Speech
B.A., Glenville State College (West Virginia); M.A., Penn-
sylvania State University.
- BUSHWAY, COLLIN (1969).....*Associate Professor of Management*
M.B.A., University of Chicago; D.B.A., George Washington
University.
- BUSS, JAMES (1970).....*Instructor of Dramatic Art and Speech*
B.A., Sate University of Iowa; M.A., Catholic University of
America.
- BUTLER, JOEL R. (1968).....*Professor of Psychology*
B.A., M.S., San Francisco State College; Ph.D., Louisiana
State University.
- BUTZ, RICHARD A. (1966).....*Assistant Professor of Crafts*
and Chairman of the Department
B.F.A., Wittenberg University; M.F.A., State University of
New York at Alfred.

**** Died December 1970.

- BUTZNER, VIOLA (1964)*** *Instructor of Art Education*
B.A., Barnard College.
- BYERLEY, GERALD D. (1966) *Instructor of Art Education*
B.F.A., Washington University (St. Louis); M.F.A. University
of Colorado.
- CALLAHAN, JOHN M., JR. (1970) *Instructor in Advertising*
B.S., M.S., Southern Illinois University.
- CAMERON, EARL W. (1965) *Associate Professor of Engineering*
Technology
B.S. in Trade and Industrial Education, Oklahoma State Uni-
versity; M.S.Ed., North Carolina State University.
- CAMPBELL, CHARLES J. (1970) *Professor of Music History and Theory*
and Chairman, Department of Music
B.M., M.M., Cleveland Institute of Music; Ph.D., University
of Miami.
- CAMPBELL, JEWETT (1947) *Associate Professor of Painting and*
Printmaking
New York Art Students' League (three years); Skowhegan
School of Painting and Sculpture (two summers); Hans
Hofmann School of Art (two summers).
- CAMPBELL, KENNETH (1970) *Professor of Dramatic Art and Speech*
and Chairman of the Department
M.A., University of Glasgow (Scotland); M.A., Johns Hopkins
University; Ph.D., University of Denver.
- CARLYON, RICHARD N. (1960) *Assistant Professor of Painting and*
Printmaking
B.F.A., M.F.A., Virginia Commonwealth University.
- CARSTENS, JOHN A. (1970) *Instructor of English*
B.A., Idaho State University; M.A., University of Oregon.
- CARPENTER, EDWARD M. (1969) *Associate Professor of Social Work*
and Assistant Dean of the School of Social Work
B.A., San Francisco State College; M.S.W., D.S.W., University
of California School of Social Welfare.
- CECIL, JANE (1971) *Instructor in Elementary Education*
B.A., Sarah Lawrence College; M.S., University of Pennsyl-
vania.
- CHERRY, MILTON (1950) *Professor of Music*
B.M., American Conservatory of Music; M.M., Chicago Musical
College; private pupil of Hugo Kortschak, New York City.
- CHILDRESS, MYRNA H. (1971) *Instructor in Business Education*
B.S., M.S., Virginia Commonwealth University.
- CHILDREY, FRANK W., JR. (1969) *Instructor of English*
B.A., Richmond College; M.A., University of Richmond.

*** Part-time.

- CHINNICI, JOSEPH P. (1970)..... *Assistant Professor of Biology*
B.A., LaSalle College; Ph.D., University of Virginia.
- CLEARFIELD, SIDNEY M. (1967)..... *Assistant Professor of Social Work*
B.S., Temple University; M.S.W., University of Pennsylvania.
- COFFMAN, EDWARD N. (1966)..... *Assistant Professor of Accounting*
B.S., M.S., Virginia Commonwealth University.
- COHEN, STEPHEN B. (1968)..... *Assistant Professor of Mathematics*
B.S., M.S., Ph.D., University of Arizona.
- CIOLEK, JOSEPH P. (1970)..... *Instructor and Director of Registration and
Systems Control*
B.S. in Business Administration, Ohio University.
- COLVIN, CRAIG R. (1969)..... *Assistant Professor of Rehabilitation
Counseling*
B.A., Florida State University; M.Ed., University of North Carolina.
- CONE, ROBERT T. C. (1968)**..... *Instructor of Economics*
B.S., M.S., Virginia Commonwealth University.
- CONNORS, JOYCE Z. (1968)..... *Instructor of English*
A.B., St. Mary's College; M.A., University of North Carolina.
- COPPAGE, PHILIP R. (1968)..... *Instructor of Physical Education*
B.A., Randolph-Macon College; M.A., University of Maryland.
- COPPEDGE, WALTER R. (1968)..... *Professor of English*
B.A., University of Mississippi; B.Litt., Oxford University;
M.A., Memphis State University; M.A., Ph.D., Indiana University.
- CORBETT, JAMES E., JR. (1961)..... *Instructor of Engineering Technology*
B.S., North Carolina State College.
- COWARDIN, CORINNE S. (1969)..... *Instructor and Assistant Dean
of Student Services*
B.S., M.S., Radford College.
- COX, WILLIAM E. (1968)..... *Assistant Professor of Engineering Technology*
B.S., M.S., Virginia Polytechnic Institute and State University.
- CREWS, SARAH W. (1969)..... *Assistant Professor and Assistant
Director of Technical Services of Library*
B.A., Longwood College; B.S., Syracuse University.
- CROMARTIE, JANE S. (1970)..... *Assistant Professor of Marketing*
B.A., M.B.A., University of Florida.

** On Educational Leave.

***Part-time.

- CRUTCHFIELD, GEORGE THOMAS (1970).....*Associate Professor of Journalism and Chairman of Department of Journalism*
B.S., Florida Southern College; M.S., Florida State University.
- CULL, JOHN G., JR. (1966).....*Associate Professor of Rehabilitation Counseling*
B.S., M.Ed., Texas A. and M. University; Ph.D., Texas Technological College.
- CULP, MARY ELIZABETH (1969).....*Instructor of English*
A.B., University of South Carolina; M.A., University of North Carolina.
- CURLER, GERTRUDE C. (1958).....*Assistant Professor of English*
B.A., Vassar College; M.A., University of Richmond.
- DAHLKE, H. OTTO (1966).....*Professor of Social Work*
B.A., M.A., University of Illinois; Ph.D., University of Wisconsin; 3rd Year Certificate in Social Work, University of Pennsylvania.
- DASHEK, WILLIAM VINCENT (1970).....*Assistant Professor of Biology*
B.S., M.S., Ph.D., Marquette University.
- DAVIS, FAIRFAX G. (1959).....*Assistant Professor of Engineering Technology*
B.S., Randolph-Macon College; M.S., Virginia Commonwealth University.
- DAVIS, HERBERT J. (1969)**.....*Assistant Professor of Business*
B.S., Villanova University; M.B.A., East Carolina University.
- DEAL, ALICE BOYD (1970).....*Assistant Professor and Librarian for the School of the Arts*
B.A., University of North Dakota; M.A., University of Cincinnati; B.S.L.S., Case Western Reserve.
- DeGENARO, GUY J. (1970).....*Assistant Professor of Management*
B.S., University of Maryland; M.B.A., Indiana University.
- DELL, WILLIE J. (1969).....*Assistant Professor of Social Work*
B.A., St. Augustine's College; M.S.W., Virginia Commonwealth University.
- DENNIS, RUTLEDGE (1971).....*Assistant Professor of Sociology and Coordinator of Afro-American Studies Program*
B.A., South Carolina State College; M.A., University of Idaho.
- DePILLARS, MURRY N. (1971).....*Assistant Professor of Art and Assistant Dean, School of the Arts*
B.A., University of Illinois at Chicago Circle; M.A., Roosevelt University, Chicago, Illinois.
- DEPKAT, GISELA (1970).....*Assistant Professor of Music*
Studied at Oberlin Conservatory.

** Educational Leave.

- DIANA, JEANNE E. (1968) *Associate Professor of Social Welfare*
B.S., Juniata College; M.L., Ph.D., University of Pittsburgh.
- DIANA, LEWIS (1968) *Professor of Sociology*
A.B., Harvard University; M.A., Ph.D., University of Pittsburgh.
- DINTIMAN, GEORGE B. (1968) *Professor of Physical Education*
and Chairman of Physical Education Department
B.S., Lock Haven State College; M.A., New York University;
Ed.D., Columbia University.
- DITTMAN, NANCY A. (1971) *Associate Professor of Business*
Education and Office Administration
B.S., Florida State University; M.Ed., University of Florida;
Ed.D., University of Colorado.
- DONATO, GERALD M. (1967) *Instructor of Painting and Printmaking*
B.S., M.A., Northern Illinois University; M.F.A., University of Wisconsin.
- DOWDY, MARSHALL D. (1967) *Instructor of Retailing*
B.S., M.S., Virginia Commonwealth University.
- DRAKE, MARGARET S. (1967)*** . . . *Instructor of Engineering Technology*
B.S., M.S., University of Tennessee.
- DRISCOLL, NANCY A. (1957) *Assistant Professor of Physical Education*
A.B., College of William and Mary; M.S., University of Richmond.
- DUFF, JAMES W., JR. (1969) *Instructor of Business*
B.S., Western Carolina University; M.S., Virginia Commonwealth University.
- DUKE, ELIZABETH F. (1966) *Assistant Professor of English*
B.A., Longwood College; M.A., University of Virginia; Ph.D., University of Iowa.
- DUKE, J. MAURICE (1966) *Associate Professor of English*
A.B., College of William and Mary; M.A., Ph.D., University of Iowa.
- DUNCAN, JACK A. (1970) *Associate Professor of Education*
B.S., Millersville State College; M.Ed., Temple University;
Ed.D., University of Georgia.
- DUNCAN, PATRICIA A. (1971) *Assistant Professor of Elementary*
Education and Director of the Reading Center
B.S., Millersville State College; M.Ed., Ed.D., University of Georgia.
- DUNN, HAROLD E. (1970) *Instructor and Cataloger in Library*
B.A., University of Mississippi; M.L.S., Rutgers University.

*** Part-time.

- DuVERNAY, ROBERT P., JR. (1969) *Instructor of Information Systems*
B.S., M.S., University of Southwestern Louisiana.
- EASTMAN, ALLAN A. (1950) *Professor of Crafts*
B.S., University of New York at Buffalo; Diploma in Art Education, Pratt Institute; Diploma in Design, Vesper George School of Art.
- ECK, FRANCIS T. (1969) *Instructor of Business Administration and Management*
B.S., Villanova University; J.D., University of Richmond.
- EDWARDS, WILLIAM O. (1960) *Associate Professor of Business and Director of University Relations*
B.S., M.A., University of Missouri.
- ELY, JAMES W., JR. (1970) *Instructor of History*
B.A., Princeton University; LL.B., Harvard School of Law; M.A., Ph.D., University of Virginia.
- ELY, VIVIEN KING (1962) *Associate Professor and Acting Chairman of Distributive Education*
B.S., East Tennessee State College; M.S., Virginia Commonwealth University.
- EPPS, JEAN M. (1969) *Instructor in Distributive Education*
B.S., Virginia State College; M.S., Virginia Commonwealth University.
- EPPS, ROZANNE G. (1943) *Instructor and Assistant to the Director of Evening College and Summer School*
B.A., Vassar College.
- ERICKSON, MAURICE LEONARD (1970) *Instructor in Dramatic Art and Speech*
B.S., Dickinson State College; M.F.A., Ohio University.
- ETKIN, MICHAEL W. (1969) *Assistant Professor of Psychology*
B.S., New York University; M.S., Ph.D., Rutgers-The State University.
- FALKE, DAVID R. (1963) *Assistant Professor of Business*
B.S., University of Pittsburgh; M.B.A., University of Maryland.
- FALLEN, NANCY H. (1967) *Assistant Professor of Special Education*
B.S., Mary Washington College; M.Ed., College of William and Mary.
- FARLEY, REUBEN W. (1968) *Assistant Professor of Mathematics*
B.S., Randolph-Macon College; M.A., Ph.D., University of Tennessee.
- FAULS, JOHN T. (1966) *Associate Professor of Psychology*
A.B., Harvard University; Ph.D., Florida State University.
- FAWLEY, LOUISA P. (1965) *Instructor of English*
B.A., Westhampton College; M.A., Columbia University.

- FEDERICO, SALVATORE L. (1967) . . . *Instructor of Painting and Printmaking*
B.F.A., Virginia Commonwealth University; M.A., Hunter College.
- FERGUSON, BOBBY R. (1964) *Assistant Professor of Marketing*
B.A., Roanoke College; M.S., Virginia Polytechnic Institute and State University.
- FERGUSON, CLINTON S. (1959) *Associate Professor of Economics*
B.B.A., University of Chattanooga; M.S., University of Tennessee.
- FERGUSON, JERRY THOMAS (1965) *Assistant Professor of Business Administration*
B.S., M.S., Virginia Polytechnic Institute and State University.
- FETZER, LARRY D. (1968) *Instructor of Accounting*
B.B.A., Evangel College; M.S.B.A., University of Denver; C.P.A.
- FFOLIOTT, CHARLES F. (1967) *Assistant Professor of Physics*
E.E., M.S., Rensselaer Polytechnic Institute.
- FIELD, JERRY JEWETT (1961) *Associate Professor of Interior Design*
B.S., Certificate in Interior Design, Virginia Commonwealth University; Diploma, Parsons School of Design.
- FINLEY, LAWRENCE K. (1970) *Assistant Professor of Management*
B.B.A., M.B.A., North Texas State University; Ph.D., Ohio State University
- FISHER, MARCIA F. (1970) *Instructor and Assistant to the Director of Evening School and Summer School*
A.B., Brown University; M.A., University of Connecticut.
- FITZPATRICK, MARY JANE (1970) *Instructor of Music*
B.A., Mary Washington College; M.A., University of Iowa.
- FITZSIMMONS, LLOYD D. (1971)*** *Instructor of Interior Design*
B.A., B.Arch., Yale University.
- FLEMING, ROBERT S. (1968) *Professor of Education*
A.B., East Carolina College; M.A., George Peabody College; Ed.D., New York University.
- FLESHOOD, ARNOLD PENDLETON (1965) *Professor of Education, Dean of School of Education, and Assistant Vice-President for Academic Affairs*
B.A., University of Richmond; M.S., Virginia Polytechnic Institute and State University; Ed.D., Columbia University.
- FLETCHER, CHARLES E. (1967) *Assistant Professor of Accounting*
B.S., University of Alabama; M.A., New Mexico Highlands University.

*** On Educational Leave.

- FLOWERS, ALICE FUNKHOUSER (1970)***. *Instructor of Dramatic Art and Speech*
B.A., Mary Washington College; M.A., University of Virginia.
- FOLEY, MARGARET D. (1969). *Assistant Professor of Social Work*
B.A., Mary Washington College; M.S.S.W., Virginia Commonwealth University.
- FORREST, JOYCE M. (1969). *Instructor of Information Systems*
B.S., M.S., Virginia Commonwealth University.
- FOSTER, ANN T. (1969). *Instructor of English*
B.A., Florida State University; M.A., Vanderbilt University.
- FOSTER, CHARLES A. B. (1946). *Professor of Engineering and Coordinator of Curriculum in Engineering*
B.S., M.S., Virginia Polytechnic Institute and State University;
- FOSTER, MARION GOLD (1970). *Assistant Professor of Social Work*
B.A., University of Minnesota; M.S.W., Howard University; D.S.W., Catholic University of America.
- FRANCES, ALBERT S. (1970). *Professor of Sociology and Anthropology*
B.A., University of Madrid (Spain); LL.D., University of Oviedo (Spain); Ph.D., University of Pittsburgh.
- FRANKLIN, McDONALD, JR. (1969). *Assistant Professor of Social Work*
B.S., St. Paul's College; M.S.S.W., Virginia Commonwealth University.
- FREASIER, BARNEY R., SR. (1968). *Associate Professor of Philosophy and Religious Studies*
B.A., Ouachita Baptist University; B.D., Southern Baptist Theological Seminary; Th.D., Immanuel Baptist Seminary.
- FREASIER, B. ROLAND, JR. (1967). *Associate Professor of Accounting*
B.S., University of Richmond; M.S., Virginia Commonwealth University; CPA; J.D., College of William and Mary.
- FREED, DAVID C. (1966). *Assistant Professor of Painting and Printmaking*
B.F.A., Miami University (Ohio); M.F.A., University of Iowa; Royal College of Art, London (1 year).
- FREEMAN, GERTRUDE B. (1968). *Assistant Professor of Education*
B.S., Hampton Institute; M.A., New York University.
- FRIEDMAN, WILLIAM H. (1969). *Assistant Professor of Philosophy*
B.A., M.A., University of Pennsylvania; B.H.L., Gratz College; Ph.D., University of Virginia.
- FULBRIGHT, EVELYN R. (1968). *Professor of Education and Chairman of Department of Elementary Education*
A.B., M.A., Marshall University; Ed.D., Duke University.

*** Part-time.

- GABET, YVONNE H. (1970).....*Instructor of Psychology*
B.S., M.A., University of Houston; Ph.D., University of Texas.
- GAIROLA, KRISHNA C. (1969).....*Associate Professor of Art History*
B.A., M.A., Allahabad University; Ph.D., London University;
D.E.L., Ecole du Louvre.
- GALLAGHER, SHARON (1969).....*Assistant Professor of Art History*
B.A., M.A., Pennsylvania State University.
- GARGIULO, RAYMOND JOSEPH (1970)...*Assistant Professor of Education*
B.S., M.Ed., Ohio University; Ed.D., University of New Mexico.
- GERVIN, SPENCER R. (1968).....*Associate Professor of Economics*
B.S., East Tennessee State University; A.M., Ph.D., Duke
University.
- GIBBS, LEONARD (1970).....*Assistant Professor of Music*
B.M., Oberlin University.
- GIBBY, ROBERT G., SR. (1961)***.....*Professor of Psychology*
B.A., M.A., Ohio State; Ph.D., University of Michigan.
- GIBBY, ROBERT G., JR. (1964).....*Assistant Professor of Psychology*
B.A., University of Richmond; M.A., Ph.D., Catholic Univer-
sity.
- GILBERT, KATHERINE N. (1969).....*Instructor in Art History*
B.F.A., Virginia Commonwealth University.
- GILBREATH, GLENN H. (1971).....*Assistant Professor of Quantitative
Management*
B.S., M.A., Ph.D., University of Alabama.
- GILFOYLE, ATALISSA S. (1968).....*Instructor of English*
B.A., College of William and Mary; M.A., State University of
New York at Buffalo.
- GLADDING, JANE B. (1947).....*Associate Professor of Chemistry and
Associate Dean of Student Life*
B.A., Smith College; M.S., University of Richmond.
- GLOVER, JACK D. (1967).....*Director Audio Visual Services*
B.F.A., John Herron Art Institute (Indianapolis); M.S., Indiana
University.
- GLYNN, WILLIAM A. (1968).....*Associate Professor of Mathematics
and Chairman of the Department*
B.S., Northwestern University; M.S., Ph.D., Oklahoma State
University.
- GOGGIN, WILLIAM F. (1966)**.....*Instructor of English*
B.A., College of William and Mary; M.Ed., University of
Virginia, Ed.D., University of Virginia.

** On Educational Leave.

*** Part-time.

- GOLD, HILDA (1958).....*Assistant Professor of Social Work*
B.A., Douglass College; Diploma, New York School of Social Work.
- GOLDSTEIN, LEWIS C. (1955).....*Professor of Biology and Assistant Dean, School of Arts and Sciences*
B.S., M.S., University of Richmond; Ph.D., University of Virginia.
- GOODMAN, GAY (1971).....*Assistant Professor of Special Education*
B.S., M.S., Texas Theological University; Ed.Sp., Ph.D., University of Iowa.
- GOOTNICK, DAVID E. (1971).....*Assistant Professor of Business Education and Office Administration*
B.A., Queens College; M.Ed., Northeastern University; Ph.D., Georgia State University.
- GORDON, ROBERT L. (1970)***.....*Instructor of History*
B.A., Virginia Military Institute; M.A., University of Richmond.
- GRABINSKI, STEPHEN J. (1966).....*Instructor of Photography*
B.F.A., Philadelphia College of Art.
- GRAHAM, DANA K. (1970).....*Instructor of Occupational Therapy*
O.T.R., B.S., University of Wisconsin.
- GRANT, GEORGE C. (1969).....*Assistant Professor of Chemistry*
B.A., Lehigh University; Ph.D., Rensselaer Polytechnic Institute.
- GRATTAN, ROBERT, III (1969).....*Instructor of English*
B.S., Randolph-Macon College; M.A., University of Richmond.
- GREENBERG, MARILYN S. (1970).....*Instructor of English*
B.A., M.A., Radcliffe College.
- GREENE, THEODORE H. (1969).....*Assistant Professor of Dramatic Art and Speech*
B.A., Valley State College; M.A., University of Southern California.
- GREENE, JANIPHER R. (1969).....*Instructor of Political Science*
B.A., Virginia Union University; M.S., Southern Connecticut State College.
- GREER, HAROLD E., JR. (1968).....*Assistant Professor of History*
A.B., M.A., Ph.D., University of Alabama; Th.M., New Orleans Baptist Theological Seminary.
- GRIFFIN, CLAUDIUS W. (1960, 1969).....*Assistant Professor of English*
B.S., M.A., University of Richmond.

*** Part-time.

- GRIFFIN, ELSIE A. (1970).....*Instructor of English*
 B.A., M.A., North Carolina College.
- GRIFFIN, JOHN E., JR. (1966).....*Instructor of Engineering*
 B.S., M.A., Appalachian State Teachers College (North Carolina).
- GRIMSLEY, JAMES E. (1954)***.....*Instructor of Journalism*
 A.B., College of William and Mary.
- GROMAN, WILLIAM D. (1965).....*Associate Professor of Psychology*
 B.A., M.S., University of Miami (Florida); Ph.D., Duke University.
- GROSS, DELLVINA M. (1968).....*Assistant Professor of Occupational Therapy*
 B.A., The College of St. Catherine; M.A., Western Michigan University.
- GROVES, BARNEY R. (1970).....*Associate Professor of Education and Director of Intramural Sports*
 B.S., Southeastern State College; M.S., Oklahoma University; Ph.D., Florida State University.
- GUIDRY, CLARENCE A., JR. (1969).....*Instructor of Information Systems*
 B.S., M.S., University of Southwestern Louisiana.
- GUNTER, BENNY D. (1965).....*Assistant Professor of Interior Design and Chairman of the Department*
 A.B., Bridgewater College; B.F.A., Virginia Commonwealth University; M.Ed., University of Virginia.
- HAAS, FREDERICK C. (1969).....*Associate Professor of Management*
 B.B.A., M.B.A., M.A., Hofstra College; Ph.D., University of Florida.
- HAGUE, JAMES L. (1970).....*Assistant Professor of Law Enforcement*
 B.A., Washington and Lee University; LL.B., J.D., University of Michigan Law School.
- HALE, VICKIE G. (1966).....*Instructor of Fashion Design*
 B.F.A., Virginia Commonwealth University.
- HALL, A. LEE (1954, 1963)**.....*Associate Professor and Chairman of Department of Information Systems*
 B.S., M.S., Virginia Polytechnic Institute and State University.
- HALL, J. CURTIS (1962).....*Professor and Dean of School of Business*
 A.B., Duke University; M.S., Virginia Polytechnic Institute and State University; Ed.D. Columbia University.

** On Educational Leave.

*** Part-time.

- HALL, THOMAS O., JR. (1967).....*Professor of
Philosophy and Religious Studies
and Chairman of the Department*
A.B., Hampden-Sydney College; B.D., Th.M., Th.D., South-
western Baptist Theological Seminary.
- HAMILTON, DOROTHY TENNENT (1946)...*Assistant Professor of Interior
Design*
Certificate in Interior Decoration, Virginia Commonwealth
University.
- HAMM, GLENN B. (1969).....*Instructor in Art Education*
B.F.A., M.F.A., Carnegie-Mellon University.
- HARDY, DOROTHY M. (1961).....*Instructor of Interior Design*
Certificate in Interior Design, Virginia Commonwealth Uni-
versity.
- HARDY, RICHARD E. (1968).....*Associate Professor and Chairman of
Department of Rehabilitation Counseling*
B.S., Virginia Polytechnic Institute and State University; M.S.,
Virginia Commonwealth University; A.G.S., Ed.D., University
of Maryland.
- HARPER, JARED VINCENT (1970).....*Instructor of Sociology and
Anthropology*
B.A., Emory University; M.A., University of Georgia.
- HARRIS, GRACE E. (1967).....*Assistant Professor of Social Work*
B.S., Hampton Institute; M.S.S.W., Virginia Commonwealth
University.
- HARRY, G. BLAIR (1968).....*Assistant Professor of Business*
B.A., Randolph-Macon College; J.D., University of Richmond.
- HARTNETT, JOHN J. (1968).....*Assistant Professor of Psychology*
B.A., University of Vermont; M.S., North Carolina State Uni-
versity; Ph.D., Wayne State University.
- HAWKES, GLENN R. (1968).....*Professor of Psychology*
B.A., M.A., Ph.D., University of Virginia.
- HAWTHORNE, LILLIAN M. (1965)***.....*Assistant Professor of Nursing*
B.S., Medical College of Virginia of Virginia Commonwealth
University; M.P.H., University of North Carolina.
- HAYMES, EDWARD R. (1969).....*Assistant Professor of German*
B.A., Lynchburg College; M.A., University of Virginia; Ph.D.,
University of Erlangen.
- HAYMES, HARMON H. (1968).....*Professor and Chairman of
the Department of Economics*
B.A., Lynchburg College; M.A., Ph.D., University of Virginia.

*** Part-time.

- HEBERT, BUDD H. (1970) *Assistant Professor of Urban Studies*
B.S., M.S., Arizona State University; Ph.D., Ohio State University.
- HELFGOTT, MYRON (1968) *Assistant Professor of Sculpture*
B.A., M.F.A., Southern Illinois University.
- HENRY, CHARLES R. (1968) *Instructor of Sculpture*
B.F.A., Cleveland Institute of Art; M.F.A., Cranbrook Academy of Art.
- HENRY, NATHANIEL H. (1968) *Professor of English*
B.A., M.A., Ph.D., University of North Carolina.
- HERZOG, NOELIE RODRIGUEZ (1970) *Instructor of Sociology and Anthropology*
B.A., University of South Florida; M.A., University of California, Los Angeles. 2-3
- HESTER, ROBERT F. (1953) *Professor of Interior Design and Assistant Dean of the School of the Arts*
B.S., Wake Forest College; Diploma, Parsons School of Design; Graduate Study, University of London; M.A., Cornell University; National Trust Summer School (England).
- HILL, ADA D. (1969) *Instructor in Education*
B.A., St. Augustine's College; M.S., Virginia State College.
- HILTON, JOHN T. (1950) *Professor of Communication Arts and Design*
B.F.A., Yale School of Fine Arts; M.S., Institute of Design, Illinois Institute of Technology.
- HINTER-REITER, H. GILDA (1967) *Associate Professor of Art History*
B.A., Sir George Williams University (Canada); M.Ed., Pennsylvania State University.
- HOADLEY, LEONARD G. (1959) *Associate Professor of Engineering Technology*
B.E., Wisconsin State College; M.Ed., Colorado State University.
- HODGES, RAYMOND (1940) *Professor Emeritus of Dramatic Art and Speech*
B.S., State College, Bloomsburg, Pennsylvania; M.A., Teachers College, Columbia University.
- HOFFER, GEORGE E. (1970) *Assistant Professor of Economics*
B.S., University of Richmond; M.S., Virginia Polytechnic Institute and State University.
- HOLLAND, GLORIA J. (1970) *Instructor/Circulation Librarian*
B.A., Mary Washington College; M.S.L.S., University of North Carolina.

- HOLLOWAY, C. THOMAS (1957, 1963) *Associate Professor of Dramatic Art and Speech*
B.F.A., Virginia Commonwealth University; M.F.A., Boston University.
- HONEYCUTT, FAY C. (1966) *Instructor of Retailing*
B.A., Meredith College; M.S., University of North Carolina.
- HOOKE, JAMES F. (1970) *Assistant Professor of Psychology*
A.B., Brandeis University; Ph.D., University of Nebraska.
- HORI, KYOTSU (1970)*** *Assistant Professor of History*
B.A., Waseda University; M.A., Columbia University; Ph.D., Columbia University.
- HORMACHEA, CARROLL R. (1964) *Associate Professor, Department of Law Enforcement*
B.A., M.S., Trinity University.
- HORMACHEA, MARION M. (1964) *Assistant Dean, School of Community Services and Associate Professor of Recreational Leadership*
B.S., Virginia Commonwealth University; M.S., University of Richmond.
- HORNBuckle, PHYLLIS A. (1968) *Assistant Professor of Psychology*
A.B., Pfeiffer College; M.A., College of William and Mary; Ph.D., Emory University.
- HOUGHTON, CLARE G. (1965) *Assistant Professor of Library Science*
B.A., Radford College; M.A., George Peabody College for Teachers.
- HUBBARD, JEAN L. (1970) *Instructor and Assistant Reference Librarian*
B.A., Miami University (Ohio); A.M.L.S., University of Michigan.
- HUDGINS, H. WAYNE (1967)** *Instructor of Accounting*
B.S., M.C., University of Richmond.
- HUGHES, MADELEINE C. (1969) *Assistant Professor of Psychology*
B.S., Louisiana State University; M.S., Ph.D., University of Georgia.
- HUMPHREYS, NEIL J. (1969) *Assistant Professor and Acting Chairman of Department of Information Systems*
B.S., M.B.A., Drexel Institute of Technology; Ph.D., University of Pennsylvania.
- HUNT, EUGENE H. (1968) *Associate Professor and Assistant Chairman of the Department of Business Administration and Management*
B.S., M.S., Virginia Commonwealth University; Ed.D., University of Maryland.

** On Educational Leave.

*** Part-time.

- HUNTER, BETTY W. (1966) *Assistant Professor of Counseling and Guidance*
B.A., M.Ed., Longwood College; Ed.D., George Washington University.
- HUNTER, JACK R. (1957) *** *Associate Professor of Journalism*
B.A., University of Virginia.
- HUTCHINSON, JOHN D., IV (1967) *Assistant Professor of Rehabilitation Counseling*
B.S., Virginia Polytechnic Institute and State University; M.S., Virginia Commonwealth University.
- HYNSON, PRISCILLA C. (1967) *Associate Professor of Art Education*
B.S., East Carolina College; M.A., Ed.D., George Peabody College.
- INGE, M. THOMAS (1969) *Associate Professor of English*
B.A., Randolph-Macon College; M.A., Ph.D., Vanderbilt University.
- INGOLD, DAVID EDWARD (1969) *Instructor of English*
A.B., North Carolina State University; M.A., University of North Carolina.
- INGRAM, MARVIN L. (1949) *Professor of Economics*
B.A., University of North Carolina; M.A., Ed.D., New York University.
- ITZKOVITZ, CHARLES (1969) *Assistant Professor of Social Work*
B.A., Brandeis University; M.S.W., Rutgers University.
- JACKSON, RONALD H. (1966) *Instructor of Painting and Printmaking*
B.F.A., Virginia Commonwealth University; M.F.A., California College of Arts and Crafts.
- JARRELL, GEORGE R. (1969) *Associate Professor of Rehabilitation Counseling*
B.S., M.S., University of Florida; Ph.D., University of South Carolina.
- JEFFREY, JACKSON E. (1962) *Associate Professor of Biology*
B.S., Virginia Commonwealth University; R. P. T. and Certificate in Physical Therapy, Medical College of Virginia of Virginia Commonwealth University; M.S., Virginia Polytechnic Institute and State University; Ph.D., Medical College of Virginia of Virginia Commonwealth University.
- JENNINGS, GEORGE W. (1966) *Associate Professor of Economics*
A.B., Emory University; M.A., University of Georgia; Ph.D., University of Virginia.

*** Part-time.

- JOHNS, F. EDWIN (1970).....*Instructor and Bibliographer in Library*
B.S., Virginia Commonwealth University; M.L.S., George Pea-
body College.
- JOHNSON, CHARLES G. (1965).....*Instructor of Engineering Technology*
A.B., Norwich University; M.Ed., Montclair State College
(New Jersey).
- JOHNSON, LUCIE J. (1967)***.....*Assistant Professor of Social Work*
A.B., Wake Forest College; M.S.W., Tulane University.
- JOHNSON, MILES F. (1968).....*Assistant Professor of Biology*
B.S., Wisconsin State University; M.S., University of Wis-
consin; Ph.D., University of Minnesota.
- JOHNSTON, ROBERT H. (1970).....*Assistant Professor of Mathematics*
B.S., M.A., Miami University (Ohio).
- JOHNSTON, RUSSELL A. (1956).....*Professor and Chairman of*
Department of Business Administration
and Management
B.S., M.S., Virginia Commonwealth University; Ed.D., Uni-
versity of Kentucky.
- JOHNSTON, WALLACE R. (1971).....*Assistant Professor of Management*
B.B.A., M.B.A., George Washington University.
- JONES, CLARENCE G., JR. (1965).....*Instructor of Physical Education*
B.S., Virginia Polytechnic Institute and State University;
M.Ed., University of North Carolina.
- JONES, CLINTON E. (1962)..*Assistant Professor of Engineering Technology*
B.S., North Carolina State University; M.A., University of
Michigan.
- JONES, JEAN BOYD (1964).....*Associate Professor of Social Work*
A.B., Oberlin College; M.S.S.A., Western Reserve University.
- JONES, VIROUS W. (1970).....*Assistant Professor of Social Work*
B.A., Virginia State College; M.S.W., Atlanta University School
of Social Work.
- JORDAN, ANNE S. (1965).....*Instructor of English*
B.S., College of William and Mary; M.Ed., University of
Virginia.
- JORDAN, DANIEL P., JR. (1969).....*Assistant Professor of History*
B.A., M.A., University of Mississippi; Ph.D., University of
Virginia.
- JURNEY, W. H. (1968).....*Assistant Professor of Mathematics*
B.S., North Carolina State College; M.A., Duke University.

*** Part-time.

- KACYRA, ANWAR N. (1969) *Assistant Professor of Economics*
B.S., Tennessee Wesleyan College; M.A., Atlanta University;
Ph.D., Catholic University.
- KALIF, GEORGE T. (1943) *Professor of Social Work*
B.A., M.A., M.S.W., Tulane University; Ph.D., Harvard University.
- KAPP, MARY E. (1940, 1946) *Professor of Chemistry*
and Chairman of the Department
A.B., University of North Carolina; M.A., Duke University;
Ph.D., University of North Carolina.
- KAUFMAN, JOHN (1966) . . . *Assistant Professor of Engineering Technology*
B.S., U. S. Naval Academy; M.E., Pennsylvania State University.
- KEENAN, THOMAS L. (1970) *Assistant Professor of Social Work*
A.B., University of Michigan; M.S.W., University of Michigan
School of Social Work.
- KEESEE, CURTIS G., JR. (1957) *Associate Professor of Education*
and Chairman of the Department of
Counseling and Guidance
B.S., American University; S.T.B., Westminster Theological
Seminary; M.Ed., University of Virginia; Ed.D., University of
Virginia.
- KERRIGAN, THOMAS L. (1970)*** *Instructor of Crafts*
B.S., Wisconsin State University; M.A., Ohio University;
M.F.A., Ohio University.
- KEVORKIAN, RICHARD E. (1964) *Associate Professor of Painting and*
Printmaking and Chairman of the Department
B.F.A., Virginia Commonwealth University; Summer Session,
Pennsylvania Academy of Fine Arts; M.F.A., California College
of Arts and Crafts.
- KIMBROUGH, T. DANIEL, JR. (1967) *Assistant Professor of Biology*
B.S., M.A., University of Alabama; Ph.D., Auburn University.
- KIRK, THOMAS A., JR. (1966) *Assistant Professor of Psychology*
B.A., St. Vincent College (Pennsylvania); M.A., Ph.D., Catholic
University.
- KNIFE, EDWARD E. (1969) *Assistant Professor of Sociology*
and Anthropology
B.A., M.A., University of Arizona; Ph.D., University of Kentucky.
- KOOIMAN, CORNELIUS A. (1961) *Associate Professor and Director*
of School of Occupational Therapy
O.T.R., B.S., University of Minnesota; M.A., University of
Southern California.

*** Part-time.

- KOPLIN, BRUCE M. (1964)..... *Assistant Professor and Director of
Foundation Art Program*
B.F.A., M.F.A., Virginia Commonwealth University.
- KOSS, MICHAEL (1969).....*Instructor of Dramatic Art and Speech*
B.S., Long Island University; M.A., University of Connecticut.
- KULESVA, VALERIE (1971)..... *Assistant Professor of Special Education*
Ed.B.A., Annhurst College; M.Ed., Virginia Commonwealth
University.
- KUHNS, DONALD E. (1970).....*Instructor of Accounting*
B.S., Madison College; M.B.A., University of Pittsburgh; CPA.
- LAHEY, MICHAEL VICTOR (1971).....*Assistant Professor in
Elementary Education*
A.A., University of Florida; B.S., Florida Atlanta University;
M.A., Ed.D., University of Georgia.
- LAMBERT, JOHN D. (1955).....*Associate Professor and Assistant Dean
of School of Business*
B.S., Virginia Commonwealth University; M.S., Virginia Poly-
technic Institute and State University.
- LANDIS, ALAN L. (1968).....*Associate Professor and Chairman of
Art Education*
B.S., Indiana University; M.Ed., D.Ed., Pennsylvania State
University.
- LANE, LIONEL C. (1966).....*Professor of Social Work*
B.A., Long Island University; M.S. in Ed., College of the City
of New York; M.S.S.W., Columbia University; D.S.W., Uni-
versity of Pennsylvania School of Social Work.
- LAWES, ROBERT C., JR. (1966)..... *Associate Professor of Music*
B.M., Henderson State Teachers College (Arkansas); M.M.,
Ph.D., North Texas State University.
- LAZARUS, FREYDA M. (1969).....*Instructor of Retailing*
B.S., Rochester Institute of Technology; M.Ed., Virginia Com-
monwealth University.
- LEE, DOROTHY E. (1960).....*Professor of Business Education and
Office Administration*
B.S., M.S., Albany State University; Ph.D., New York Uni-
versity.
- LEFELHOCZ, JOHN F. (1967).....*Assistant Professor of Chemistry*
B.S., Ph.D., University of Notre Dame.
- LEGNAIOLI, F. LOUIS (1971).....*Assistant Professor of Engineering
Technology*
B.S., University of Virginia.

- LEWIS, ALLEN NELSON (1970).....*Instructor of Art Education*
B.S., Hampton Institute; M.E., Virginia Commonwealth University.
- LEZAK, EDWARD H. (1970).....*Assistant Professor of Mathematics*
B.S., M.S., Ph.D., Illinois Institute of Technology.
- LINARES, JUAN F. (1968).....*Assistant Professor of Engineering*
B.S., Ph.D., University of Havana (Cuba).
- LINDSEY, JAMES E., JR. (1970).....*Assistant Professor of Philosophy*
and Religious Studies
B.S., University of Richmond; B.D., Th.M., Th.D., Union Theological Seminary.
- LIPMAN, PATRICIA A. (1969)****Instructor of Anthropology*
B.A., University of Wisconsin.
- LLEWELLYN, GERALD C. (1969).....*Assistant Professor of Biology and*
Biology Education
B.S., Frostburg State College; M.S., Ph.D., Purdue University.
- LLOYD, BETTY (1956).....*Associate Professor of English and*
Foreign Languages
B.A., M.A., Northwestern University.
- LOCKARD, EARL N. (1969).....*Associate Professor of English*
A.B., M.A., University of Illinois; Ph.D., University of Chicago.
- LODGE, RICHARD (1965).....*Professor of Social Work and Dean,*
School of Social Work
B.A., Carnegie Institute of Technology; M.S.W., University of Pittsburgh School of Social Work; D.S.W., University of Pennsylvania School of Social Work.
- LOHR, C. MICHAEL (1966).....*Assistant Professor of Mathematics*
B.S., M.Ed., Ed.D., University of Virginia.
- LOHUIS, ARDYTH (1969).....*Assistant Professor in Sacred Music*
B.S.M., Illinois Wesleyan University; M.M., Northwestern University; Ph.D., Cincinnati College Conservatory of Music, University of Cincinnati.
- LOLLEY, THOMAS LANE (1970).....*Assistant Professor of Education*
B.A., M.Ed., Northeast Louisiana State College.
- LONG, JOHN L. (1965).....*Instructor of Interior Design*
B.A., Wake Forest College; B.D., Th.M., Southeastern Baptist Theological Seminary; B.F.A., Virginia Commonwealth University.
- LONGEST, GEORGE C. (1963).....*Assistant Professor of English*
B.A., M.A., University of Richmond; Ph.D., University of Georgia.

*** Part-time.

- LONNES, JEROME LEROY (1970) *Assistant Professor of Philosophy and Religious Studies*
B.A., Carleton College; M.A., Ph.D., Emory University.
- LOOMER, E. COFER (1961) *Assistant Professor of Business and Coordinator of Management Center*
B.S., M.S., Virginia Commonwealth University.
- LOONEY, JAMES R. (1964) *Assistant Professor and Acting Chairman of Department of Advertising*
B.S., East Tennessee State University; M.S., Virginia Commonwealth University.
- LORE, RICHARD KARL (1970) *Associate Professor of Psychology*
B.A., University of North Carolina; Ph.D., University of Tennessee, Knoxville.
- LUBMAN, MELVIN V. (1968) *Instructor of Psychology*
B.A., University of Richmond; M.A., New York University.
- LUMPKINS, WILLIAM H. (1968) *Instructor of Art History*
B.F.A., M.F.A., University of Southern California.
- LUND, F. EDWARD (1969) *Professor of History and Political Science and Chairman of the Department*
A.B., M.A., Washington and Lee University; Ph.D., University of Wisconsin.
- LYLE, JOHN D. (1967)** *Instructor of History*
A.B., Pfeiffer College; M.A., University of South Carolina.)
- LYLE, JOHN DEADRICK (1968) *Instructor of Art History*
B.S., M.A., East Tennessee State University.
- LYLES, ALBERT MARION (1970) *Professor of English and Chairman of the Department*
A.B., Union College; A.M., University of Pennsylvania; Ph.D., Rutgers-The State University.
- LYNCH, JEANNE S. (1964) *Assistant Professor of English*
B.S., Longwood College; M.Ed., University of Virginia.
- MAGILL, G. DAVE (1962)** *Assistant Professor of Physical Education*
B.S., Virginia Commonwealth University; M.Ed., University of Virginia.
- MAGISTRO, CHARLES J. (1967) *Assistant Professor of Communication Arts and Design*
B.F.A., Carnegie Institute of Technology; M.F.A., Ohio State University.
- MANSFIELD, VIRGIL C. (1967) *Instructor of Business and Coordinator of Management Center*
B.S., M.S., Virginia Commonwealth University.

** On Educational Leave.

- MAPP, JOHN A. (1964) *Associate Professor of Education
and Director of Evening College
and Dean of Continuing Education*
B.A., College of William and Mary; M.A., New York University.
- MARAFFIE, L. FREDERICK (1970) *Assistant Professor of Music*
B.M., Oberlin College and Conservatory.
- MARICLE, KENNETH E. (1971) *Associate Professor of Marketing*
B.S.B.A., University of Kansas; M.B.A., University of Denver;
D.B.A., Arizona State University.
- MARKHAM, ROBERT C. (1962) *Assistant Professor of English*
B.A., M.A., LL.B., J.D., University of Richmond.
- MARONICK, THOMAS J. (1966)** *Instructor of Business*
B.A., Seminary of the Northwest (Washington); M.S.B.A.,
University of Denver.
- MARTIN, BERNARD M. (1961) *Associate Professor of Painting
and Printmaking*
B.F.A., Virginia Commonwealth University; M.A., Hunter
College.
- MARTIN, STEPHEN R. (1967) *Instructor of Advertising*
B.S.B.A., University of Denver; M.S., Indiana University.
- MASON, NOVEN M. (1968) *Instructor of Interior Design*
B.A., North Carolina State University.
- MAY, MARGARET L. (1955) *Associate Professor of Biology*
B.S., American University; M.S., George Washington Uni-
versity.
- MCCANLESS, ROSAMOND (1938) *Associate Professor and Assistant to
Director of Libraries*
A.B., Converse College; A.B. in Library Science and M.A.,
University of North Carolina.
- MCCARTHA, ALICE (1969) *Associate Professor of Education*
B.Ed., Illinois State University; M.A., University of Illinois;
Ed.D., University of Florida.
- MCGEARY, KATHRYN M. (1965) *Assistant Professor of Retailing*
B.S., North Dakota State University; M.S., New York Uni-
versity.
- MCGHAN, HARLAN P. (1968) *Assistant Professor of Philosophy
and Religious Studies*
B.A., Michigan State University; M.A., Princeton University.
- McKEE, THOMAS A. (1968) *Assistant Professor of Business*
B.S., LL.B., University of Virginia.

** On Educational Leave.

- McKINNEY, CHARLES G. (1963) *Assistant Professor of Engineering Technology*
B.S., Massachusetts Institute of Technology.
- McLEOD, ALAN M. (1969) *Assistant Professor of Education*
B.A., Washington and Lee University; M.Ed., Ed.D., University of Virginia.
- McLEOD, CHARLES (1970) *Instructor and Admissions Counselor*
B.S., Virginia Commonwealth University.
- McNEIL, MICHAEL J. (1969) *Instructor in Communication Arts and Design*
B.S., University of Wisconsin; M.F.A., Pratt Institute.
- McPHERSON, ELIZABETH H. (1970) *Instructor of Education*
B.S., Virginia Commonwealth University; M.A., Madison College.
- MEDLEY, REGINA C. (1967) *Assistant Professor of Crafts*
B.S., M.F.A., Bowling Green State University.
- MEGGS, PHILIP (1968) *Instructor of Communication Arts and Design*
B.F.A., Virginia Commonwealth University.
- MEHARG, EDWARD L. (1967) *Assistant Professor of Information Systems*
B.A., University of Nevada; M.A., University of California.
- MIEGLER, ELIZABETH M. (1969) *Associate Professor of German*
Ph.D., University of Gratz.
- MILLER, ARTHUR WAYNE (1970) *Assistant Professor of Art Education*
B.A., William Jewell College; M.A., University of Missouri.
- MILLER, MICHAEL JAMES (1970) *Assistant Professor of Sociology*
B.S., M.A., University of Louisville; Ph.D., University of Kentucky.
- MILLER, ROBERT P. (1967) *Assistant Professor of Business Education and Office Administration*
B.S., M.S., Madison College; Ed.D., University of Maryland.
- MIRR, EDWARD A. (1960) *Assistant Professor of Music*
B.A., Queens College; M.A., Teachers College, Columbia University.
- MITCHELL, PATRICIA E. (1970) *Instructor of English*
A.B., M.A., University of Georgia.
- MOESER, JOHN V. (1970) *Assistant Professor of Urban Studies*
B.A., Texas Tech University; M.A., University of Colorado.
- MONTAGUE, ANNE M. (1963) *Assistant Professor of Social Work*
A.B., Meredith College; M.S.S.W., Virginia Commonwealth University.

- MOORE, DIANE (1970).....*Instructor and Admissions Counselor*
B.S., Virginia Commonwealth University.
- MOORE, JAMES TICE (1970).....*Instructor of History*
B.A., University of South Carolina; M.A., University of Virginia.
- MOOREFIELD, JEAN A. (1966).....*Instructor of Sociology*
B.S., East Carolina College; M.A.T., Duke University.
- MORCHOWER, MICHAEL (1969)***.....*Assistant Professor of Law Enforcement*
B.A., M.S., LL.B., University of Richmond.
- MORONI, PAULINE (1967).....*Instructor of Education and Counselor*
B.S., Madison College; M.S., Eastern Illinois University.
- MORRIS, DOUGLAS K. (1970).....*Instructor of English*
B.A., David Lipscomb College; M.A., University of Tennessee.
- MORRIS, JOSEPH R. (1969).....*Assistant Professor of Mathematics*
B.S., M.S., Virginia Polytechnic Institute and State University;
M.A., Ph.D., University of Alabama.
- MORTON, JERRY D. (1969).....*Instructor of English*
B.A., Emory and Henry College; M.A., University of Tennessee.
- MOSZER, MAX (1970).....*Professor of Economics*
A.B., A.M., Ph.D., University of Pennsylvania.
- MOTLEY, HESTER C. (1968).....*Assistant Professor of Guidance*
A.B., M.Ed., College of William and Mary; Ph.D., American University.
- MURDOCK, ROBERT W. (1969).....*Assistant Professor of Mathematics*
A.B., Syracuse University; M.A., East Tennessee State University.
- MURPHY, BERNARD (1969).....*Assistant Professor of Sociology*
B.A., St. Mary's University (Halifax); M.S., Boston University;
Ph.D., Wayne State University.
- MURRELLE, ALEXANDER C. (1963).....*Assistant Professor of Business*
B.S., University of Texas; LL.B., South Texas College of Law;
M.S., University of Houston (Texas).
- MURRILL, MALCOLM L. (1948).....*Associate Professor of Mathematics*
B.A., Yale University; M.S., University of Richmond.
- MYERS, CAROLYN WADE (1970).....*Instructor and Serials Librarian*
B.A., University of Florida; M.L.S., Peabody Graduate Library School.

*** Part-time.

- NAN, GEORGE D. (1963) *Associate Professor of Photography and
Chairman of the Department*
B.F.A., Rochester Institute of Technology; M.S., Illinois In-
stitute of Technology.
- NEELY, GLENDA S. (1970) *Assistant Reference Librarian*
B.S., University of Georgia; M.L.S., George Peabody College.
- NEHALSINGH, WALTER I. (1968) *Assistant Professor of Art History*
B.S., Tufts University; M.A., Harvard University.
- NELSON, FRANCIS C. (1967) *Associate Professor of History*
B.A., Maurus College, Hungary; M.A., Ph.D., University of
Budapest; S.P.D., LL.D., Francis Joseph State University.
- NEUMANN, MARGARETTA R. (1952)** *Associate Professor of
Social Welfare*
Ph.B., University of Chicago; M.A., School of Social Service
Administration, University of Chicago.
- NEWBURG, EDWARD A. (1970) *Associate Professor of Mathematics*
B.S., M.S., Purdue University; Ph.D., University of Illinois.
- NEWDICK, RICHARD L. (1966) *Assistant Professor of Dramatic Art
and Speech*
B.A., University of Maine; M.A., University of North Carolina.
- NEWTON, J. WAYNE (1971) *Visiting Professor of Social Welfare and
Urban Studies*
A.B., Wesleyan University; M.A., New York University;
M.A.S.A., Ohio State University.
- NICKERSON, CHARLES A., JR. (1970) *Assistant Professor of
Quantitative Management*
A.B., Duke University; M.B.A., Ph.D., University of Georgia;
CPA.
- NOBLE, CECILE E. (1966) *Instructor of French*
B.S., Virginia Commonwealth University; Sorbonne, Paris,
France; M.A., University of Richmond.
- NOBLIN, CHARLES D. (1969) *Professor of Psychology*
B.A., Mississippi College; M.S., Virginia Commonwealth Uni-
versity; Ph.D., Louisiana State University.
- NOE, CHARLES WARREN (1970) *Professor of Physical Education*
B.S., University of Virginia.
- NORTH, HAROLD E. (1965) *Assistant Professor and Chairman of
Sculpture Department*
B.F.A., Rhode Island School of Design; M.F.A., Virginia
Commonwealth University.

** On Educational Leave.

- OEHLER, JOHN S. (1970).....*Assistant Professor of Education*
B.A., Davidson College; M.A.T., University of North Carolina.
- ORWIG, KENNETH R. (1966).....*Assistant Professor of Biology*
B.S., Lebanon Valley College (Pennsylvania); Ph.D., University
of Nebraska.
- OSTROW, ELLEN K. (1964).....*Assistant Professor of Social Work*
B.S., University of Pittsburgh; M.S.S., Smith College School
for Social Work.
- O'TOOLE, DENNIS (1967).....*Assistant Professor of Economics*
B.A., College of William and Mary; M.S., Virginia Common-
wealth University; Ph.D., Ohio University.
- OTTENBRITE, RAPHAEL M. (1967).....*Associate Professor of Chemistry*
B.S., M.S., Assumption University; Ph.D., University of
Windsor.
- OVERTON, BETTIE K. (1969).....*Instructor in Distributive Education*
A.B., Randolph-Macon Woman's College; M.Ed., University
of Virginia.
- OZMON, HOWARD A., JR. (1970).....*Professor of Education*
A.B., University of Virginia; M.A., Ed.D., Columbia University.
- PAGELS, JOHN F. (1969).....*Assistant Professor of Biology*
B.S., Central Michigan University; M.S., Ph.D., Tulane Uni-
versity.
- PANDIELLO, ESTELA A. (1967).....*Assistant Professor of Spanish*
Ph.D in Pedagogy, University of Havana.
- PANICI, SANDRA K. (1970).....*Instructor of English*
B.A., Millikin University; M.A., University of Kansas.
- PARIS, OLIVER J. (1968).....*Assistant Professor of Education and*
Director of Admissions
A.B., University of North Carolina; M.Ed., University of
Florida.
- PARKER, LOIS E. (1969).....*Instructor of Information Systems*
B.S., Purdue University; M.A., Michigan State University.
- PARKER, OSBORNE B. (1969).....*Associate Professor of Education*
and Director of Counseling Center
B.S., Purdue University; M.S., Indiana University; Ed.D.,
Michigan State University.
- PARKER, RONALD D. (1969).....*Assistant Professor of Biology*
B.S., M.S., University of Illinois; Ph.D., Brigham Young
University.
- PASIERB, LEONARD G. (1963).....*Assistant Professor of Sociology*
B.S., Arkansas State College (Jonesboro); M.S., Trinity Uni-
versity (San Antonio, Tex.).

- PAYNE, F. DANA (1970) *Assistant Professor and Coordinator of Academic Advising*
A.B., Princeton University.
- PEARMAN, WILLIAM A. (1970) *Associate Professor of Social Work*
B.A., LaSalle College; M.A., Fordham University; Ph.D., University of Pittsburgh.
- PEARSON, ELLEN D. (1969) *Instructor/Director of Student Financial Aids*
B.S., South Carolina State College.
- PEEPLES, EDWARD H., JR. (1968) *Assistant Professor of Sociology*
B.S., Virginia Commonwealth University; M.A., University of Pennsylvania.
- PENDLETON, JAMES D. (1958) *Associate Professor of English*
B.S., Davidson College; M.A., University of North Carolina.
- PENNINGTON, JUDE COLE (1970) *Instructor of Physical Education*
B.S., Lock Haven State Teachers College; M.Ed., Temple University.
- PEOPLES, NAPOLEON (1970) *Counselor and Assistant Professor of Education*
B.A., Wilburforce University; M.Ed., Ed.S., Kent State University.
- PEPLE, EDWARD C., JR. (1969) *Assistant Professor of English*
B.A., University of Richmond; M.A., Ph.D., University of Virginia.
- PERRY, REGENIA A. (1967) *Associate Professor of Art History*
B.S., Virginia State College; M.A., Ph.D., Western Reserve University.
- PFEIFFER, CARL (1965) *Associate Professor of Music*
B.S., Julliard School of Music; M.M., University of Miami (Florida).
- PHELAN, WILLIAM R. (1967) *Assistant Professor of Communication Arts and Design*
B.F.A., Massachusetts College of Art; M.F.A., Rochester Institute of Technology.
- PHELPS, PHIL R. (1969) *Assistant Professor of English*
B.A., M.A., University of Tennessee; Ph.D., University of New Mexico.
- PICHERIT, JEAN-LOUIS G. (1969) *Assistant Professor of French*
Diploma, Ecole Supérieure de Commerce et d'Administration des Entreprises (France); M.A., University of Nebraska; Ph.D., University of North Carolina.
- PLATZ, ANNA E. (1968) *Instructor of German*
B.A., Adelphi University; M.A., Columbia University.

- POBER, PATRICIA (1969)***.....*Instructor of Geography*
B.A., M.S., University of Idaho.
- POGANY, PETER (1969).....*Assistant Professor of Economics*
Diploma, Hungarian University of Economics; M.A., University
of Pennsylvania; Doctor of Economics, Hungarian University
of Economics.
- POLLAK, THERESA (1928)†.....*Professor Emeritus of Painting*
and Printmaking
B.S., University of Richmond; Harvard University (one
summer); New York Art Students' League (four years); Hans
Hofmann School of Art (one summer).
- POOLE, ROGER CLIFTON (1970).....*Assistant Professor of Finance*
and Insurance
A.B., The Citadel; M.B.A., University of South Carolina.
- PORACH, LEE B. (1970).....*Counselor and Instructor of Education*
A.B., William and Mary; M.Ed., Ed.D., University of Virginia.
- PRITCHETT, SAMUEL TRAVIS (1970).....*Assistant Professor of Insurance*
B.S., M.S., Virginia Polytechnic Institute and State University;
D.B.A., Indiana University; C.L.U.
- PROSSER, WILLIAM L. (1970).....*Assistant Professor of Dramatic Art*
and Speech
A.B., Williams College; M.A., Purdue University.
- PUIG, JOSE R. (1967).....*Assistant Professor of Sculpture*
B.A., M.F.A., Southern Illinois University.
- QUARTERMAN, DALE L. (1969).....*Instructor of Photography*
B.F.A., University of Georgia.
- RAY, WILLIAM SAMUEL (1970).....*Professor of Psychology*
B.A., Bridgewater College; M.A., Ph.D., University of Mary-
land.
- RAYCHOWDHURY, PRATIP N. (1969).....*Associate Professor of*
Mathematics
B.S., University of Calcutta; B.A., University College (Cal-
cutta); M.S., Brigham Young University; Ph.D., George Wash-
ington University.
- REED, GILBERT F., JR. (1968).....*Instructor of Crafts*
B.F.A., University of Kansas; M.F.A., University of Michigan.
- REED, JAMES R., JR. (1968).....*Assistant Professor of Biology*
A.B., Harvard University; M.S., Cornell University; Ph.D.,
Tulane University.
- RENICK, CHARLES (1953).....*Professor of Sculpture*
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*** Part-time.

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- REYNOLDS, ELIZABETH R. (1967) *Assistant Professor of English*
B.A., Winthrop College; M.A., Columbia University; Ph.D.,
University of South Carolina.
- REYNOLDS, JOHN D. (1967) *Associate Professor of Biology*
B.S., M.Ed., Temple University; Ph.D., University of South
Carolina.
- RHINEHART, RAYMOND P. (1968) *Assistant Professor of English*
B.A., Brown University; M.A., Ph.D., Princeton University.
- RICHARDS, WALTER L., JR. (1951) *Associate Professor of Biology*
B.S., Virginia Military Institute; M.A., University of Virginia.
- RIMLER, GEORGE WARREN (1970) *Assistant Professor of Management*
B.S.M.E., Polytechnic Institute of Brooklyn; M.B.A., D.B.A.,
Georgia State University.
- RIVERS, RICHARD (1969) *Associate Professor of Music*
B.S., Julliard School of Music; M.A., George Peabody College.
- ROACH, J. KENNETH (1961) *Professor and Director, Graduate
Studies in Business*
A.B., Duke University; M.A., Columbia University; Ed.D., New
York University.
- ROACHE, LILLA EVELYN (1970) *Assistant Professor of Sociology and
Anthropology*
B.A., College of William and Mary; M.A., George Washington
University.
- ROBERTSON, NEALE M. (1968)** *Instructor of Business Administration
and Management*
B.S., M.S., Virginia Commonwealth University.
- ROBERTSON, RICHARD H. (1967) *Instructor of Information Systems*
B.S., M.S., Virginia Commonwealth University.
- ROBINSON, LAWRENCE (1959) *Assistant Professor of Organ*
A.B., University of South Carolina; M.M., University of
Michigan.
- ROBINSON, LEAH T. (1965) *Instructor of Psychology*
B.S., M.S., Virginia Commonwealth University.
- ROGERS, ALBERT A. (1946) *Professor of History and Political Science*
B.A., University of Richmond; B.S., M.A., Ph.D., University
of Virginia.
- ROMEO, THOMAS D. (1969) *Assistant Professor of Occupational
Therapy*
B.S., Southern Connecticut State College; Certificate in
Physical Therapy, Columbia University; M.Ed., Northeastern
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** On Educational Leave.

- ROSS, E. ALLAN (1967).....*Instructor of Art History*
B.F.A., B.S., Ohio State University; M.F.A., Bowling Green State University.
- ROTHENBERG, ELAINE Z. (1960).....*Professor of Social Work and Associate Dean of the School of Social Work*
A.B., Queens College; M.S.S., Smith College School for Social Work.
- ROUSE, VIRGINIA A. (1965).....*Instructor of Music*
B.M. (Music Education), B.M. (Violin), M.M., Florida State University.
- ROYSTER, ELIZABETH S. (1964).....*Instructor of Physical Education*
B.S., Virginia Commonwealth University.
- RUBIN, HARVEY W. (1972).....*Assistant Professor of Insurance*
B.B.A., M.A.S., Ph.D., Georgia State University.
- RUSSELL, DOJELO C. (1965).....*Assistant Professor of Social Work*
B.A., University of Arkansas; M.S.W., Tulane University School of Social Work; D.S.W., Catholic University of America.
- RUSSELL, MILO F. (1957).....*Assistant Professor of Painting and Printmaking*
B.F.A., Virginia Commonwealth University; M.A., University of Virginia; Traveling Fellowship, Virginia Museum of Fine Arts.
- RYLAND, ANNE P. (1962)***.....*Instructor of Interior Design*
B.A., Westhampton College; Parsons School of Design.
- SALEH, SOPHIE A. (1969).....*Instructor of Fashion Design*
B.A., High Institute for Domestic Economy (Egypt); Diploma, St. Martin's School of Arts (London).
- SAVARESE, JAMES M. (1969).....*Assistant Professor of Economics*
A.B., LaSalle College.
- SAXTON, DOROTHY P. (1966).....*Assistant Professor of Occupational Therapy*
Ph.B., Northwestern University; Certificate in Occupational Therapy, Milwaukee Downer College; M.A., Western Michigan University.
- SCALIN, CHARLES B. (1968).....*Instructor of Communication Arts and Design*
B.F.A., Art Institute of Chicago; M.F.A., Pratt Institute.
- SCHANTZ, ALAN PAUL (1970).....*Instructor of Art Education*
B.A., Muhlenberg College; M.Ed., Temple University.
- SCHATZKY, SIDNEY A. (1968).....*Assistant Professor of Fashion Art*
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*** Part-time.

- SCHEDLER, DAVID A. (1969)..... *Assistant Professor of Mathematics*
B.S., M.S., Oklahoma State University; Ph.D., George Washington University.
- SCHILTZ, JACK H. (1969)..... *Assistant Professor of Physical Education*
B.S., M.S., Southern Illinois University; Ed.D., Columbia University.
- SCHREIBER, MARY (1970)..... *Associate Professor of Social Work*
B.A., University of Illinois; M.S.W., Washington University (Missouri); 3rd Year Certificate, University of Chicago.
- SCHRIEBERG, CHARLOTTE S. (1965)..... *Assistant Professor of Social Work*
B.S., Westhampton College; M.S.S.W., Virginia Commonwealth University.
- SCHROEPFER, MARY C. (1970)..... *Assistant Professor of Occupational Therapy*
B.S., Academy of the Holy Angels; M.A., University of Minnesota.
- SCHUBERT, MARGARET (1968)***..... *Professor of Social Work*
A.B., University of California; A.M., Ph.D., University of Chicago.
- SCHUETZ, ARNOLD (1970)..... *Instructor of History and Political Science*
M.A., Tulane University; Ph.D., University of Wisconsin.
- SCHWABAUER, ROBERT J. (1970)..... *Assistant Professor of Mathematics*
B.S., M.S., Ph.D., University of Nebraska.
- SCHWARZ, JOSEPH (1968)..... *Professor of Art and Director, Graduate Studies in Art*
B.F.A., Ohio Wesleyan University; M.F.A., University of Illinois; Ph.D., Ohio State University.
- SCOTCH, C. BERNARD (1968)..... *Associate Professor of Social Work*
B.A., Boston University; M.S.W., University of Pittsburgh; Ph.D., Brandeis University.
- SCOTT, LINDA P. (1970)..... *Instructor of Information Systems*
B.S., M.S., Virginia Commonwealth University.
- SCOTT, RICHARD A. (1968)..... *Associate Professor of Accounting*
B.B.A., City College of New York; M.B.A., Columbia University; M.B.A., Boston University; Ph.D., American University; CPA.
- SEE, RUTH D. (1967)..... *Assistant Professor of History*
B.A., Mary Baldwin College; M.R.E., New York Theological Seminary; Ph.D., New York University.
- SEGAL, FLORENCE (1968)..... *Assistant Professor of Social Work*
B.A., Queens College; M.A., University of Chicago.

*** Part-time.

- SEIDENBERG, ARTHUR J. (1968) *Assistant Professor of Biology*
B.S., Brooklyn College; Ph.D., University of Illinois.
- SELLERS, JAMES R. *Assistant Professor of Recreation*
B.S., M.Ed., North Carolina State University; Ed.D., University of Georgia.
- SEWARD, LYNNE K. (1970) *Instructor of Recreation*
- SEXTON, VINCENT L., III (1964) *Instructor of History*
B.A., Hampden-Sydney College; M.A., George Peabody College.
- SHARMAN, CHARLES CHRISTIAN (1971) *Assistant Professor in Elementary Education*
B.S., Virginia Commonwealth University; M.T.S., College of William and Mary; Ed.D., University of Virginia.
- SHARPLEY, JOHN M. (1967) *Associate Professor of Biology*
B.A., Hampden-Sydney College; M.S., University of Richmond.
- SHARSHAR, ABDELALEEM M. (1970) *Assistant Professor of Economics*
B.Com., University of Cairo (Egypt); M.A., Williams College; M.Ph., Ph.D., George Washington University.
- SHEFFIELD, ROBERT N. (1968)** *Instructor of Business Administration and Management*
B.S., M.S., Virginia Commonwealth University.
- SHERRARD, S. McCLUER (1970) *Instructor and Cataloger for Library*
B.A., Roanoke College; M.A.L.S., George Peabody College.
- SHERRON, JO ANN (1968) *Instructor of Business Education and Office Administration*
B.S., Atlantic Christian College; M.Ed., University of North Carolina.
- SHERRON, RONALD H. (1970) *Assistant Professor of Education*
B.S., North Carolina State University; M.Ed., Ph.D., University of North Carolina.
- SHILLADY, DONALD DOUGLAS (1970) *Assistant Professor of Chemistry*
B.S., Drexel University; M.A., Princeton University; Ph.D., University of Virginia.
- SIEFKE, THOMAS C. (1970) *Assistant Professor of Crafts*
B.F.A., M.F.A., Bowling Green State University.
- SIGLER, CHARLES O. II (1968) *Instructor of Fashion Design*
B.F.A., Virginia Commonwealth University.
- SILVER, THOMAS C. (1968) *Instructor of Sculpture*
B.A., California State College; M.F.A., University of Kansas.
- SIMMONS, GEORGE M., JR. (1968) *Assistant Professor of Biology*
B.S., Appalachian State University; Ph.D., Virginia Polytechnic Institute and State University.

** On Educational Leave.

- SIMPSON, DOROTHY (1969)..... *Assistant Professor of Art Education*
B.A., Alabama College; M.A., University of Alabama; D.Ed.,
Pennsylvania State University.
- SINGH, B. KRISHNA (1969)..... *Assistant Professor of Sociology*
B.S., University of Gorakpur (India); M.S., University of
Bhagalpur (India); M.S., University of Guelph (Canada);
Ph.D., University of Kentucky.
- SKINNER, MARY-LYNN (1968)..... *Assistant Professor of English*
A.B., Mount Holyoke College; D.P., University of St. Andrews
(Scotland); M.A., Ph.D., University of Tennessee.
- SLATER, MERLE V. (1966)..... *Assistant Professor of Business*
B.S.B.A., Washington University (St. Louis); M.A.Ed., Univer-
sity of Florida.
- SLOOPE, BILLY W. (1968)..... *Professor of Physics*
and Chairman of the Department
B.S., University of Richmond; M.S., Ph.D., University of
Virginia.
- SMITH, BRUCE (1968)***... *Instructor of Communication Arts and Design*
B.F.A., Virginia Commonwealth University.
- SMITH, DONALD L. (1968)... *Instructor of English and Assistant Director*
of Admissions
B.A., Virginia Commonwealth University; M.Ed., University of
Richmond.
- SMITH, H. STUART, JR. (1967)..... *Assistant Professor of Education and*
Psychology
B.A., University of Richmond; M.S., Virginia Polytechnic In-
stitute and State University; Ph.D., University of Virginia.
- SMITH, L. WINSTON (1963)..... *Instructor of History*
B.A., M.A., University of Richmond.
- SMITH, RENE (1964)..... *Instructor of Physics*
B.S., Loyola University; M.S., Fordham University.
- SMITH, ROGER L. (1969)..... *Professor of Engineering*
A.B., Columbia College; M.S., Columbia Engineering School;
Ph.D., Columbia University.
- SMITH, SANFORD O. (1966)..... *Assistant Professor of Engineering*
Technology
A.B., Mercer University; B.D., Southern Baptist Theological
Seminary; M.A., University of Louisville.
- SNELLINGS, ELEANOR C. (1968)..... *Associate Professor of Economics*
A.B., M.A., University of North Carolina; Ph.D., Duke Uni-
versity.

*** Part-time.

- SOLOMON, JACK D. (1967) *Assistant Professor of Painting and Printmaking*
B.A., San Diego State College; M.A., San Francisco State College.
- SPARKS, HOWARD L. (1966) *Professor of Education and Assistant Dean of the School of Education*
A.B., College of William and Mary (Norfolk); M.A., Ed.D., Teachers College, Columbia University.
- SPERRY, JOHN B. (1971) *Associate Professor of Accounting*
B.S., New York University; M.B.A., University of Pennsylvania; Ph.D., American University; CPA.
- SPINELLI, MICHAEL A. (1969) *Assistant Professor of Quantitative Management*
B.A., Ph.D., West Virginia University.
- STERNAL, BRANCH K. (1970) *Assistant Professor of Quantitative Management*
B.A., University of Minnesota; M.B.A., Inter-American University—Puerto Rico.
- STEVENS, JOSEPH LEOPOLD (1970) *Associate Professor of Political Science and Urban Studies*
J.U.D., University of Vienna (Austria); M.C.L., George Washington University.
- STIERS, WALTER F. (1966)** *Assistant Professor of Education and Assistant Registrar*
B.S., Central Normal College (Indiana); M.S.Ed., Butler University.
- STUMP, BILLY LEE (1966) *Associate Professor of Chemistry*
B.S., Carson-Newman College; Ph.D., University of Tennessee.
- SUCEC, DAVID A. (1969) *Assistant Professor of Painting*
B.A., San Diego State College; M.A., San Francisco State College.
- SWYERS, WILLIAM R. (1969) *Associate Professor of Education*
B.M.Ed., Murray State University; M.S., University of Notre Dame; Ed.D., University of Georgia.
- SYKES, MOSETTA P. (1966) *Assistant Professor of Business Education and Office Administration*
B.S., M.S., Virginia Commonwealth University.
- TALBERT, ROBERT MARTIN (1969) *Assistant Professor of History, Philosophy and Religious Studies*
B.A., Wake Forest University; B.D., S.E., Baptist Theological Seminary (N.C.); Ph.D., Hebrew Union College.

** On Educational Leave.

- TAPLIN, JACKIE F. (1967).....*Counselor and Instructor of Education*
B.S., Longwood College; M.Ed., Tulane University.
- TARTER, MARTIN A., JR. (1969).....*Associate Professor of Education*
B.S., Virginia Polytechnic Institute and State University;
M.Ed., Ed.D., University of Virginia.
- TAYLOR, JOHN S. (1965).....*Instructor of Political Science*
A.B., M.A., University of North Carolina.
- TEETER, SARA E. (1965).....*Instructor of History*
A.B., University of Georgia; M.A., University of Richmond.
- TENNANT, DONALD B. (1952).....*Professor of Music*
B.S., Ohio State University; M.M., University of Michigan;
Ph.D., University of Iowa.
- THAYER, EDWIN C. (1962).....*Assistant Professor of Music (Horn)*
B.M., M.M., University of Illinois.
- THEDFORD, WILLIAM A. (1970).....*Assistant Professor of Mathematics*
B.S., M.S., Oklahoma State University; Ph.D., New Mexico
State University.
- THOMAS, CHARLES W. (1969).....*Assistant Professor of Sociology*
B.S., McMurry College; M.A., Ph.D., University of Kentucky.
- THOMAS, EDWIN R. (1950, 1955).....*Professor of Psychology and*
Chairman of the Department
B.A., University of Richmond; M.S., North Carolina State
College; Ph.D., Syracuse University.
- THOMAS, JERRY BRUCE (1970).....*Instructor of History*
A.B., West Virginia University; M.A., University of North
Carolina.
- THOMAS, MARY ELLEN (1969).....*Assistant Professor and Reference*
Librarian
B.A., Westhampton College; M.S.L.S., University of North
Carolina.
- THOMPSON, CLYDE M. (1969).....*Instructor of Business and*
Coordinator of Management Center
B.S., Virginia Commonwealth University; M.C., University of
Richmond.
- THOMPSON, NANCY K. (1969).....*Instructor in Crafts*
B.S., Ball State Teachers College; M.F.A., Indiana University.
- THORNTON, JACK E. (1969).....*Associate Professor of Finance*
B.S., M.S., Ph.D., University of North Carolina.
- TINSLEY, MARGARET G. (1968).....*Instructor of English*
B.A., Westhampton College; M.A., University of Richmond.

- TIPTON, ROBERT M. (1966)..... *Assistant Professor of Psychology*
B.S., M.S., Virginia Commonwealth University; Ph.D., University of Missouri.
- TODD, JAMES M. (1968)..... *Instructor of Accounting*
B.S., M.A., Appalachian State University.
- TROPP, EMANUEL (1966)..... *Professor of Social Work*
B.S.S., College of the City of New York; M.S.S.W., Columbia University School of Social Work.
- TUCKER, WOODIE L. (1957)..... *Professor and Chairman*
Department of Business Education
and Office Administration
B.S., University of Virginia; M.Ed., Ph.D., University of Pittsburgh.
- TUDOR, MARY J. (1967)..... *Instructor of History*
B.S., Virginia Commonwealth University; M.A., University of Maryland.
- TURPIN, WILLIAM H. (1969)..... *Assistant Professor of Journalism*
A.B., University of Georgia; M.A., University of Florida.
- TYLER, GEORGE R. (1969)..... *Assistant Professor of Economics*
B.S., University of Colorado.
- ULLMAN, ROBERT M. G. (1969)***..... *Instructor in Interior Design*
B.S., University of Virginia.
- UMBERGER, PAUL M. (1959)..... *Assistant Professor of Business*
B.S., M.S., Virginia Polytechnic Institute and State University.
- VACCA, RICHARD S. (1967)..... *Associate Professor of Education and*
Assistant Dean, School of Education
A.B., Lafayette College (Pennsylvania); M.S., State University of New York at Oneonta; Ed.D., Duke University.
- VANCE, ROBERT L. (1970)..... *Assistant Professor of Chemistry*
B.S., Virginia Polytechnic Institute and State University; Ph.D., University of Virginia.
- VAN WINKLE, LESTER (1969)..... *Instructor in Sculpture*
B.S., East Texas State University; M.A., University of Kentucky.
- VAN ZYL, S. DAVID WALLACE..... *Associate Professor of Urban Studies*
and Recreation
B.A., Cape Town University, South Africa; M.U.R.P., Virginia Polytechnic Institute and State University, 1969.
- VLAHCEVIC, SONIA K. (1967)..... *Assistant Professor of Music*
B.A., New England Conservatory; M.M., Western Reserve University.

*** Part-time.

- VOGEL, WILLIAM A. (1970) *Instructor of Special Education*
B.A., Susquehanna University; M.A., Newark State College.
- WALKER, RUBY CLAYTON (1970) *Assistant Professor of Social Work*
B.S., Virginia Union University; M.S.S.W., Virginia Commonwealth University.
- WALLACE, JOHN H. G. (1968) *Assistant Professor of Rehabilitation Counseling*
A.B., Lenoir-Rhyne College; M.S., Virginia Commonwealth University; Ph.D., American University.
- WALLER, DENNIS G. (1970) *Instructor of History and Political Science*
B.A., University of Virginia; M.A., Duke University.
- WALLS, ELIZABETH I. (1969) *Instructor of Business Education*
B.S., Oklahoma State University; M.S., Virginia Commonwealth University; CPS.
- WARMENHOVEN, HENRI J. (1968) *Assistant Professor of History and Political Science*
LL.B., LL.M., University of Leyden; M.A., University of Melbourne.
- WARNER, JOSEPH D. (1964) *Associate Professor of Psychology*
A.B., Northeastern University; M.A., Ph.D., University of California at Los Angeles.
- WASHER, LOIS McG. (1940) *Professor of Recreation and Chairman of Department of Social Welfare*
B.S., Carnegie Institute of Technology; M.S.S.W., Virginia Commonwealth University.
- WATSON, RUTH J. (1967) *Assistant Professor of Social Welfare*
B.A., Baptist Missionary Training School; M.A., University of Chicago Divinity School.
- WEAVER, CARL G. K. (1968)** *Instructor of Business Administration*
B.S., M.S., Virginia Commonwealth University.
- WEBER, DAVID (1970) *Assistant Professor of Dramatic Art and Speech*
B.F.A., Denison University; M.A., Kent State University.
- WELCH, RIZPAH L. (1967) *Associate Professor of Education and Chairman, Department of Special Education*
B.S., Elizabeth City (N. C.) Teachers College; M.S., Ed.D., Indiana University.
- WELZEL, ALVIN K. (1968) *Associate Professor and Acting Chairman of the Department of Retailing*
B.S., Rutgers University; M.S., New York University.

** On Educational Leave.

- WESTERBERG, STURE V. (1969).....*Assistant Professor of Law Enforcement*
B.E., St. Cloud Teachers College; M.Ed., University of Maryland.
- WESTERMANN, HARLAND W. (1969).....*Professor of Urban Studies and Dean, School of Community Services*
B.A., M.A., George Washington University; Ph.D., Clark University.
- WETTON, PHILIP S. (1969).....*Instructor in Printmaking*
Diploma, Coventry College of Art.
- WHITE, SARAH A. (1968).....*Instructor of Sociology*
B.S., M.S., Virginia Commonwealth University.
- WHITESELL, J. EDWIN (1966).....*Professor of English and Dean of the School of Arts and Sciences*
A.B., Randolph-Macon College; M.A., Ph.D., Harvard University.
- WILLETT, HENRY I. (1969)***.....*Professor of Education*
B.A., LL.D., College of William and Mary; M.A., Columbia University; Litt.D., University of Richmond; LL.D., Washington and Lee University.
- WILLIAMS, JACKIE G. (1957).....*Assistant Professor of Accounting*
B.S., Madison College; M.S., Virginia Commonwealth University.
- WILLIAMS, JANE D. (1970).....*Instructor of Business Education and Office Administration*
B.S., M.S., Virginia Commonwealth University.
- WILLIAMS, MILLICENT J. (1966).....*Instructor of Business Education and Office Administration*
B.S., M.B.A., Florida State University.
- WILLIAMSON, THOMAS DEE (1970).....*Instructor of Social Welfare*
B.S., Western Illinois University; M.A., School of Social Service Administration, University of Chicago.
- WILLIAMSON, VIVIAN N. (1970).....*Associate Director of General Studies*
B.A., North Carolina College.
- WILLIS, H. DAVID (1956).....*Associate Professor of Accounting*
B.S., West Virginia University; M.Ed., Virginia Polytechnic Institute and State University.
- WILSON, DAVID G. (1970).....*Assistant Professor of Mathematics*
B.S., University of Oklahoma; M.S., Iowa State University; Ph.D., University of Maryland.
- WILSON, R. SHADE (1963).....*Instructor of English*
B.A., M.A., University of Richmond.

*** Part-time.

- WINDMUELLER, OTTI Y. (1953) *Associate Professor of Fashion Design and Chairman of Department*
Journeyman Costume Designer, trained in Germany; B.F.A., Virginia Commonwealth University; Diploma, Munich.
- WINEBRENNER, DANIEL K. (1967) *Assistant Professor of Crafts*
B.F.A., M.F.A., Rochester Institute of Technology.
- WINGFIELD, MERVYN W. (1970) *Professor and Chairman of the Department of Accounting*
A.B., College of William and Mary; M.S., University of Richmond; Ph.D., University of Illinois; CPA.
- WOLFE, ELEANOR V. (1957) *Associate Professor of Occupational Therapy*
B.S., Woman's College, University of North Carolina; M.A., Texas Woman's University; Certificate in Occupational Therapy, Virginia Commonwealth University.
- WOOD, D. ROBLEY, JR. (1968) *Instructor of Business Administration and Management*
B.A., Emory University; M.S., University of Tennessee.
- WOOD, EDWARD M., JR. (1968) *Instructor of Business Administration and Management*
B.S., Campbell College; M.B.A., Georgia State University.
- WOOD, JAMES A. (1969) *Assistant Professor of Mathematics*
B.S., Georgetown University; M.A., Ph.D., University of Virginia.
- WOOD, WILLIAM PRICE, III (1970) *Instructor of Information Systems*
B.S., University of Richmond; M.B.A., University of Arizona.
- WOODSON, JULIET L. (1944) *Associate Professor of Foreign Languages*
A.B., Westhampton College; M.A., Columbia University; Sorbonne; Université de Grenoble; Université de Poitiers.
- WRIGHT, KEITH C. (1957) *Professor of Rehabilitation Counseling*
A.B., M.A., Marshall College.
- WRIGHT, VINCENT F. (1969) *Assistant Professor and Assistant Dean of Student Affairs*
B.A., City College of New York.
- WUSLICH, MILDRED L. (1963) *Assistant Professor of Music (Piano)*
B.M., M.M., Conservatory of Music, University of Cincinnati.
- YANG, YUN-YUAN (1967) *Assistant Professor of Modern Languages*
B.A., National Cheng Chi University, China; M.A., National Sun Yat-Sen University; M.A., Visva-Bharati University, India.
- YAROWSKY, MORRIS (1969) *Assistant Professor of Painting*
A.B., Dartmouth College; M.F.A., California College of Arts and Crafts.

- YOUNG, ROBERT E. (1970)..... *Assistant Professor of Social Work*
 B.A., Pennsylvania State University; M.S.S., Bryn Mawr
 School of Social Work; Advanced Certificate, University of
 Pennsylvania, School of Social Work.
- YUNG, RINGO (1970)..... *Assistant Professor of Interior Design*
 B.A., Tientsin University; M.F.A., University of Kansas.
- ZACHARIAS, RICHARD K. (1970)..... *Instructor of English*
 A.B., Dartmouth College; M.A., Indiana University.
- ZARET, PETER (1971)..... *Assistant Professor of Music*
 B.S., M.S., Julliard School of Music.

ADJUNCT FACULTY (1970-1971)

- Adkins, Chase M., Jr., B.S., M.S..... *Business*
- Agee, Thomas H., Jr., B.A..... *Advertising*
- Ailor, William H., Jr., B.S., B.Ch.E..... *Mathematics*
- Allman, William T., B.S., M.S., Ph.D..... *Biology*
- Ames, Barbara, B.A., MAE..... *Art Education*
- Anderson, Edward, B.A., A.M..... *English*
- Asplund, Margaret F., B.A., M.A..... *Biology*
- Barber, Robert R., Jr., B.S..... *Advertising*
- Bailey, Nancy Y., B.S..... *Business*
- Baker, Colin, P.S.C., Ph.D..... *Physical Science*
- Barbour, Muriel D., B.S..... *Recreation*
- Barbour, Thomas R., B.S.D.E., M.S..... *Business*
- Barrett, Robert J., B.S..... *Advertising*
- Bateman, Charles F., B.A., M.A..... *History*
- Batts, Alger, Sr., B.S..... *Music*
- Baylor, Robert E., B.A..... *German*
- Bell, Richard A., B.A., M.A..... *English*
- Berger, Rudolph O., Jr., Certificate..... *Interior Design*
- Berman, Myron, B.S.S., M.A., Ph.D..... *Religious Studies*
- Biddle, Thelma S., B.S., M.Ed..... *History*
- Blem, Leann, B.S., M.S..... *Biology*
- Bobbitt, Donald E., B.S., M.S..... *Engineering Technology*
- Boley, Steven, B.S., M.B.A..... *Business*
- Boykin, J. Reese..... *Music*
- Breschel, Edward F., B.A., M.A..... *Education*
- Briceland, Penelope Warren, A.B., M.A..... *History*
- Brooks, John G., B.S., M.S..... *Mathematics*
- Brown, Donald L., B.Arch..... *Engineering Technology*
- Bruner, John L., B.A..... *Sociology*
- Bryant, Vincent L..... *Retailing*
- Buckner, Gerald L., B.S..... *Engineering Technology*
- Buckner, Ted R., B.S., M.C..... *Business*
- Burley, Carlton E., A.B., M.S.Ed., M.S..... *Mathematics*
- Burnett, Marquis B., B.F.A..... *Advertising*
- Busza, Alfons, M.D..... *Rehabilitation Counseling*

Canady, C. Ray, B.S.	Psychology
Canup, Robert E., B.A.	Engineering Technology
Carden, Jeanette F., B.S., M.A.	English
Carrington, William T., B.A., M.A.	History
Carver, Alice V., B.A., M.A.	English
Caskie, Donald F., B.S.	Engineering Technology
Chenault, Genevieve G., B.A., M.A.	English
Chilson, Oliver B., B.S., M.B.A.	Business
Cisne, Maxwell G., B.S., M.C., C.P.A.	Business
Cobb, George W., A.B.	Mathematics
Cochran, Earl C., Jr., B.S.C.E.	Engineering Technology
Cohen, Carles A., B.A., M.S.	Occupational Therapy
Condrey, Patricia, B.S., O.T.R.	Occupational Therapy
Conner, Phillip J.	Engineering Technology
Coppage, William Thomas, B.A., M.Ed., M.S.	Rehabilitation Counseling
Coppedge, Patricia C., B.A., M.A.	Speech
Cowles, Virginia P., B.A., M.A.	English
Craig, H. Lee, Jr., A.B., M.S., Ph.D.	Chemistry
Crosley, Thomas E., Jr., B.A., LL.B.	Political Science
Cruikshank, Robert D., A.B., M.S.	Mathematics
Crump, Juliette T., A.B.	Physical Education
Csaky, Tibor, B.S.	Business
Cudlipp, Alice V., B.A.	English
Cunningham, Jacquelyn M.	Library Science
Cutler, S. James, B.S., M.S.	Rehabilitation Counseling
Davila, Jose R., Jr., B.A., LL.B.	Law Enforcement
DeCair, Richard L., B.A., M.A.	Political Science
DeCamps, Carolyn, B.A., M.L.S.	Library Science
DeWell, Robert E., B.Mus., M.M.	Music
Dierks, Helen V., B.F.A.	Interior Design
Dofflemeyer, Alfred A., B.A., M.A.	Rehabilitation Counseling
Dunn, Charles L., B.S.C.E.	Engineering Technology
Dunn, Elisabeth O., Diploma	Russian
	French
DuPont, Gertrude M., B.A.	Art History
Durrett, Joseph R., Jr., B.S.C.E.	Engineering Technology
Dvorak, William E., B.A.	Engineering Technology
Edwards, Charles E., B.S., C.P.A.	Business
Edwards, Rondle E., B.A., M.A., Ph.D.	Education
Emory, Samuel T., Jr., A.B., M.A., Ph.D.	Geography
Evans, Albert H., B.A.	Marketing
Evans, Wade V., Jr., B.E.E.	Engineering Technology
Fagan, Esther, B.A., M.A., M.S.	Education
Farnsworth, Clyde H., B.A., M.A., Ph.D.	Economics
Fives, Marilyn F., B.A., M.A.	Political Science
Fleming, Aliceann, B.S.	Business
Fogle, Johnnie T., A.B., M.A.	Education
Fouts, J. Samuel, B.A., LL.B.	Advertising
Friedlander, Hilda M., B.S., M.S.	Hebrew
Friend, Rosemary S., B.A.	English

Fritz, Chester E., B.S.	Physical Education
Funkhouser, James B., B.S., M.D.	Rehabilitation Counseling
Gaffney, Michael D., B.A.	Business
Garcia, Maria A., M.A., Ph.D.	Spanish
Geaslen, John W., B.S.	Advertising
Gerow, Clare W., B.S., Ph.D.	Mathematics
Gibson, Margaret F., B.A., M.A.	English
Gish, Elmer H., B.A., M.A.	Education
Goggin, William F., A.B., M.Ed., Ed.D.	Education
Gordon, Robert Lee, B.A., M.A.	History
Grainger, Elizabeth, B.S., M.M.Ed.	Music
Gravely, Carol A., B.S., M.Ed.	Education
Griffis, Robert J., B.A., M.A.	Economics
Haile, William G., B.S., M.B.A.	Business
Hall, Franklin P., B.S., M.B.A., J.D.	Business
Hall, Lucien T., Jr., B.S., M.Ed., D.Ed.	Mathematics
Hanna, John T., B.S.	Law Enforcement
Harris, Charlotte J., B.A., M.A.	History
Hasker, Richard E., B.S., M.A.	English
Hatch, David, B.S.	Engineering Technology
Hawner, Pierre H., B.S., B.B.A.	French
Helton, Pelham G.	Education
Herndon, David M., B.C., C.P.A.	Business
Herrington, Nancy S., B.F.A.	Fashion Design
Highfill, C. Page, B.Arch.	Engineering Technology
Hill, Robert F., B.B.A., M.S.	Business
Hobson, Melvin C., Jr., B.S., M.S., Ph.D.	Chemistry
Hodges, Sophia U., A.B., M.A.	English
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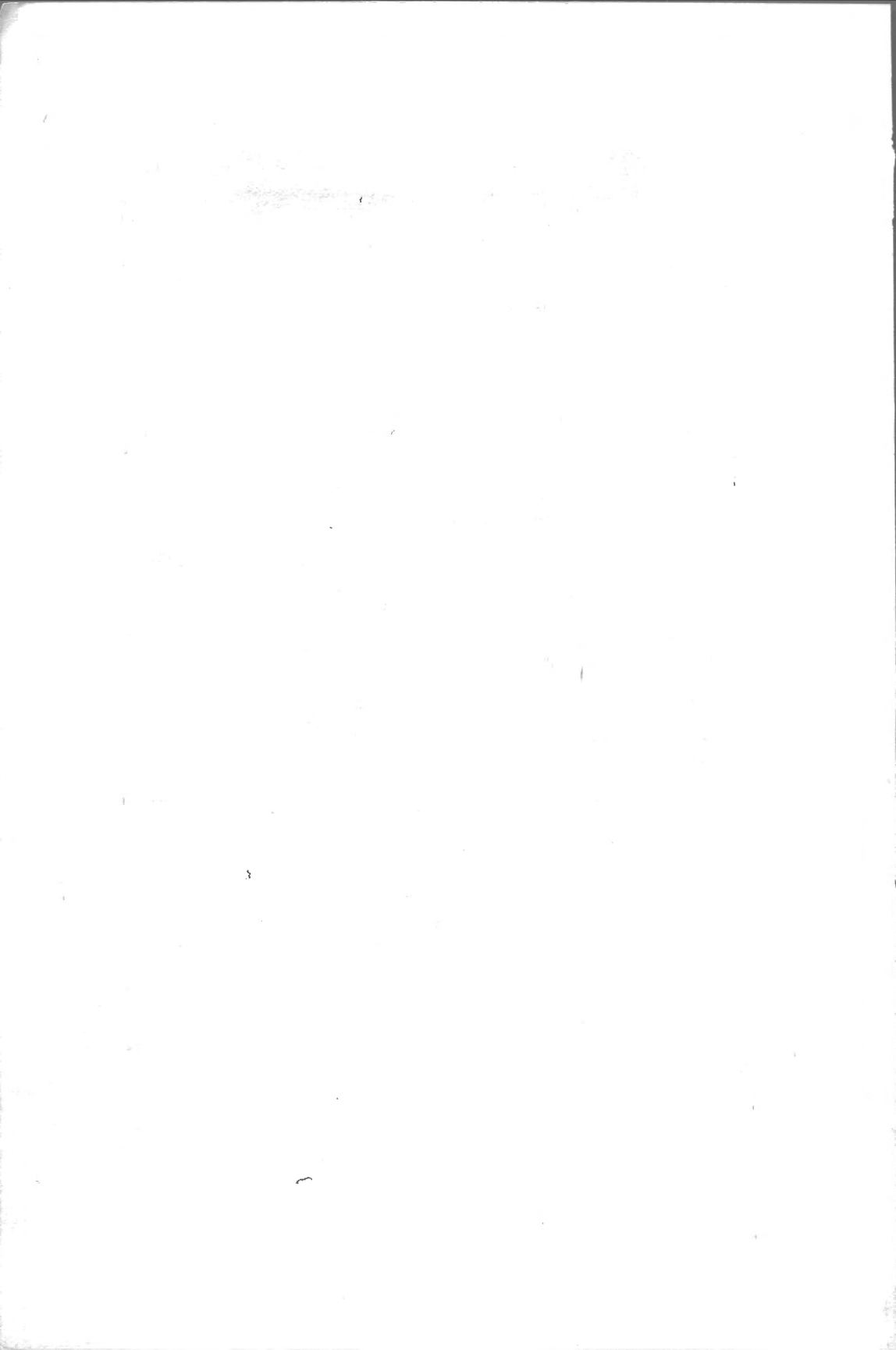


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